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AN INQUIRY INTO CONSANGUINEOUS MARRIAGES AND
PURE RACES.*

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I. PRELIMINARY REMARKS.

BEFORE entering into an analysis of the facts upon which depends the theory attributing serious inconveniences and numberless dangers to posterity from marriages between cousins, allow me to offer to your notice an essay on this question which I published in July, 1862, entitled "Des dangers attribués aux mariages consanguins." Since the appearance of this treatise I have not appeared before the Society, and the question has never been mooted at its meetings. M. Devay, whose loss we all deplore, was thus deprived of an opportunity of presenting to the Society an answer which he had made to my work: "Un mot sur les mariages consanguins, réponse à une attaque." It seemed, then, that the question of consanguineous marriages, so complex, so extensive, would not be discussed before you for a long period; but since M. Boudin, in the last number of the Memoirs of the Society, has published a fifth edition of his work, "Sur les dangers des unions consanguines," it obliges me to communicate to you at once the result of the inquiries I undertook more than a year ago, and which I intended to bring before your notice at some more distant period.

If I thus anticipate the time when my researches would have been complete, it is not, indeed, because an answer has been made to my

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former objections. But time passes, and statements of M. Boudin are continually appearing, without opposition, without criticism, in journals, in reviews, and as essays; in all of which he declares it is impossible to resist the conclusions of our honourable colleague. Besides, as in some notes in which my name appears, a semblance of an answer has been made to my former work, some persons may believe that such an answer has really been made. It is with the intention of combating these two tendencies that I take the liberty of submitting to you to-day my researches, sufficient, I believe, to contest with the disciples of M. Boudin a triumph as blatant as it has been easy. That the readers of M. Boudin's writings, not being able to examine into all they read, and especially the statistics and extracts, have been struck with the mathematical precision of his assertions, and the eloquence of his remarks, can be easily understood; but that literary men, critics, and above all, those who have written on the subject on their own account, should not have given themselves the trouble to examine the documents furnished by M. Boudin, and that in the presence of a contradictory work they have reproduced without any further explanations the same documents, the same notes, the same conclusions, is a thing which certainly does no honour to the criticism of the age. Allow me to explain the present state of the discussion.

No one, I said, has, up to the present time, answered the objections contained in my work. Messrs. Devay, Boudin, and others have occupied themselves a little about me, certainly, but I have no longer the right to refute the essay—rather too personal, perhaps—published by M. Devay, and M. Boudin has restricted himself in his remarks to the criticism of comparatively unimportant details. In the first of these remarks he accuses me of having produced “neither a fact nor a statistic.” It was not my business to do so. I had not to sustain a doctrine, but to examine that which was already produced. Now, neither the documents which have been exhibited, nor the methods which have been employed as a means of giving them sense, have appeared to me to offer the necessary guarantee for the introduction into physiology and legislation of a doctrine which might be made the subject of domestic dissensions and of individual evil. Things being as they are, it is for those who desire to modify them to give motives worthy of their projects. Besides, I could, long ago, have produced both facts and statistics, but it is not in the face of attacks of which I am the subject that I choose to resume this question, which would prevent me from attending to other work.

The four notes in the review of our colleague's work, "Sur le croisement des familles," will be answered at some later time: they do not in the slightest concern the objections which I have had the honour to present to him, and which I resume now as follows:—

1. In the first edition of M. Boudin's essay, the total number of inmates in the Deaf and Dumb Institution of Paris was not declared. It was incorrectly given in our own *Mémoires*.

2. In the same edition we read that "the resemblance of the proportional numbers found by MM. Landes, Chazarain, and Boudin, constitute a very powerful argument in favour of the precision of their observations", which tended to admit the influence of consanguinity in marriage upon the production of deafness and dumbness. In fact, M. Boudin had deduced from a few observations made in the departments of the Rhône and the Gironde, that in every 100 deaf and dumb cases, he discovered that at Bordeaux 30 per cent., at Lyons 25 per cent., and at Paris 28 per cent., were of consanguineous origin. This uniformity would, indeed, be significant if the number of the deaf and dumb was at all equal in the above named departments. But this number is very different, as it happens; there is in the Seine 1 deaf and dumb case to 4,694 inhabitants; in the Rhône, 1 in 1,669; in the Gironde, 1 in 1638. Now if marriages between cousins have some influence upon the number of the deaf and dumb, the marriages ought to be more frequent in the Rhône than the Seine, and reciprocally, the number of the deaf and dumb ought to be raised wherever there are many consanguineous marriages. In other terms, if there are three times more deaf-and-dumb cases in the Rhône than in the Seine, the proportion of the deaf-and-dumb of consanguineous origin to the deaf-and-dumb of every origin ought to be three times more considerable at Lyons than at Paris. Very well; if at Paris M. Boudin has found 28 per cent., he ought to find in the Rhône about 84 per cent. It would have been easy to answer to this reasoning by facts which would have confirmed or nullified it, and to establish that there are in the department of the Rhône two-and-a-half times more consanguineous marriages than there are in that of the Seine. They preferred, however, to renounce the argument drawn from the resemblance of statistics.

3. I had proposed a plan which consisted in making inquiries *by departments*, and in comparing reports far more complete than those of which M. Boudin has made use. Neither M. Devay, nor M. Boudin, nor their pupils, have once mentioned this.

4. I had foreseen that the number of marriages officially declared

and registered between first cousins was below the truth, and we shall see that this argument was correct, since (in certain communes at least) no mention is made of the degree of cousin in the registers, and in many others no statistical information has been furnished on this point. It followed that the declared percentage of consanguineous marriages—2 per cent.—was too small, and that the true number was not known even to those best informed on the subject. Nevertheless, M. Boudin maintains that his statistics are correct.

5. I had stated that to bring forward the danger of procreating deaf-and-dumb children by marriages between nephews and aunts—overstepped by 70 per cent. the most extensive limits of inference, the proof lying merely in one case of deaf-dumbness from this origin in the Institution at Paris. There was no answer to this. It is by an analogous inference that they pretend to find only one half-bred Jew deaf and dumb. It is evidently impossible to form any conclusions from such statistics.

6. Now, some apocryphal documents having been produced in the course of discussion (statistics from Ohio and Massachusetts), I have felt it my duty to bring forward this fact, and thus I have prevented future compilers from making many serious errors. They have not given me credit for it. Perhaps they will this time tell me whence comes the document attributed to Don Ramon de la Sagra, and whence come the statistics of Mr. Morris, who has studied the cases of 4,013 children of consanguineous origin? Who is Mr. Morris? and where has he published the experiences of these extraordinary inquiries, which must have cost him so many long years of study? This document must be looked upon with a great deal of suspicion when we find that one of those authors who copies M. Boudin literally—even in his mistakes—has abstained from copying it.

I am, therefore, authorised to reiterate my previous criticisms; and, upon some points, I expect further to unfold them. Allow me, before I do so, to bring the subject before your notice in what I believe to be a true light, and to eliminate from the discussion certain foreign elements; allow me, in other terms, to bring forward the question itself.

II. THE LIMITS OF THE SUBJECT.

The considerations which follow, I believe, must be disregarded with reference to animals and vegetables. For, besides the convenience of allowing certain men to examine into special questions, the observations made on animals do not appear exactly applicable

to mankind, at least so far as regards "pairing"; for the conditions of existence are completely different, and the aim which is proposed in zoology has no analogy in social life. It is, therefore, difficult to avoid the unlucky confusion which is continually being made between "selection" and consanguinity, which is only one of the results of selection; this result, applied to realise a known end, cannot be assimilated by factitious consequences with the spontaneous results of a consanguineous union among mankind. It may happen, in fact, that when consanguinity is applied to animals for the purpose of selection, it produces an artificial development of some parts of the animal, and may thus injure the *general* development. But this result is not avoided when we practise selection, beyond all consanguinity. It is not, therefore, logical to attribute to consanguinity that which is, or may be, attributable to selection.

Also, if breeding in-and-in (*sic*), that is to say, consanguinity increased a hundred-fold, had not, perhaps, given in its interior action the magnificent results which have been proved by the zoologists (and which our colleague, M. Sanson, has clearly shown, with his usual talent), we have no right to extend to mankind, by pure induction, the laws obtained from observation of the domestic animals. Equally, if it were established that the consanguinity of human unions, so far from showing the dangers which our opponents give it, is in the end advantageous, what shall we say about a theory which, without experimental data, without taking account of the respective differences of man in his social state and animals (that is to say, the liberty necessary for human development, and the subjugation not less necessary for the development of animals for the use of man), would proclaim at once the necessity of consanguineous unions?

For this reason, I deprive myself without regret of the support which those zoologists could offer me, who have, in my opinion, outrun anthropologists, and marked, not without precision, the degree in which the consanguinity of reproducers is useful to selection. As to the vegetable kingdom, I do not think it will be proper to bring before your notice the curious connection of relationship which some have tried to prove—with more boldness than good sense—between the fecundity of plants and animals, with reference to consanguinity. If, besides, this same theory could bear the slightest examination, our opponents would not be able to find in it any arguments favourable to their thesis; but of what use is it to extend, so far as the subject of such a strange assimilation, a question which it is above all things necessary to narrow, confine, and specialise?

Do they believe that the definitions may be, as regards mankind, so clear, and that the problem is so well stated, that facts alone may henceforth solve it? That would be a fatal error. The method and its interpretation play here a part of the first order. They speak of consanguineous marriages; they reprove them, and wish them to be forbidden. The question being proposed in these general terms, who can hesitate a single moment in giving his support to the reproof and the interdict? For does not the term "consanguineous marriage" comprehend incestuous unions of all degrees? And how is it that, in order to perpetuate the confusion, our adversaries do not fill up their writings by the documents—more or less authentic—in which are shewn, on the strength of the interdiction of marriages of distant kindred, the moral and physiological evils of incestuous marriages in barbarous or savage countries?

It is painful to bring this remark before your notice, it seems so very puerile; and yet it is necessary to re-establish the thread of the discussion in which we are now engaged. It refers solely to the dangers attributed to marriages *between cousins*; beyond that, it does not even refer to the *moral* inconveniences of such unions. Whatever opinion there may be on this point, it will not figure in our debate; nevertheless, not because morality ought to be separate from physiology, but because it is necessary to simplify a question which is already only too complicated of itself. If *moralists* can see the chief inconveniences of unions between cousins—and such were the first fathers of the Church—by all means let such alliances be forbidden; but let it be done then for moral or theological motives, and not for reasons borrowed from a false biology. Such is, however, the origin of this discussion. The civil law has given such force to canonical prescription fallen into disuse, that dispensations are never refused. One would wish, however, to restore these prescriptions, by relying not only on the wise and legitimate reasons of their authors (since these reasons, as we shall see later, no longer exist), but by relying on statistics and physiology. Another consideration, entirely theoretical, must be brought forward. I will suppose, then, that marriages between cousins furnish really a larger proportion of weakly and sickly children than other marriages; this fact, well established, may receive a certain number of rational explanations; but, doing away with this idea that every man is affected with a morbid predisposition, more or less developed, and that these predispositions have a tendency to perpetuate themselves in all the branches of a family, one may fear that two first cousins, affected with the same predisposition,

should transmit it to their children in a stronger manner than it appeared in themselves; each of these two individuals being slightly gouty, for instance, would produce a child who from his youth would show symptoms or injuries which would prove the existence of an uric diathesis of the worst description. Now I know not if such is, in reality, the law of morbid transmissions; it must be controlled by facts, and this part of the work has not yet been done. But, in all cases, the affirmative hypothesis has nothing in it which offends reason; on the contrary: and I know there are many hygienists who are hostile to consanguineous marriages on account of this very plausible theory.

Such is not the position of our opponents. They maintain that consanguinity, *ipso facto*, pure consanguinity, has *of itself*, in the absence of all disease in the parents, the property of producing diseases in the children. It is only this theory which I am now attacking, without caring to know if the facts which I am examining confirm or weaken the question of the dangers of a doubly unhealthy consanguinity.

Upon this last point, nevertheless, I am not prepared to think that the chances of disease in children are more numerous when the two parents are afflicted with the same disease, than when they show, each one separately, special predispositions; for, if we suppose that the laws of morbid inheritance are invariable, it would follow in the first case that the child would be affected with a predisposition in some degree *pure*; in the second with a predisposition, so to speak, *hybrid*; and, all things being equal, I believe that clear and well characterised diseases are less rebellious to therapeutics than those in which all sorts of pathological *elements* are mingled. This would require to be scientifically established or refuted; but the dangers of consanguineous marriages, at all events in the way in which they are understood by Messrs. Devay and Boudin, have nothing common to inheritance. M. Boudin insists strongly on this point. "In our opinion," he says, "consanguineous marriages, so far from militating in favour of an entirely imaginary and morbid inheritance, constitute the most powerful argument against the laws themselves of inheritance. Why, you see parents who are consanguineous, full of strength and health, exempt from all appreciable disease, incapable of giving to their children the health which they themselves have—giving them, on the contrary, that which they do not themselves possess; and it is in presence of such facts, that some persons dare to bring forward the words 'morbid inheritance'!" Assuredly, the audacity must be great

which enables any one to say this. Is it less audacious to say that it is consanguinity *ipso facto* which is the cause of it?

In the case of two persons not closely related and in good health, who have weakly children, the cause of this weakness escapes your observation altogether: it is by this, then, that we are advised to declare that these facts protest against the laws of inheritance. Do we dare, for want of anything better, to take one particular circumstance in the case of individuals, and then to say, "you are not discovering the cause of this disease, behold it here"?

To sum up; we must exclude from anthropological researches on consanguinity all facts which relate to plants and animals; we must only study legitimate marriages between cousins or collaterals, and not between direct progenitors and relations in the first degree; we must disengage from this study all considerations of domestic and moral order: we must see, then, if the facts which are produced confirm or weaken the theory of the dangers of healthy, in opposition to morbid, consanguinity. These are two questions, connected, yet distinct. Such are, let us consider, the first conditions of every controversy.

I will, therefore, examine successively. 1. The statistics which have been made in the asylums for the deaf-and-dumb, for the purpose of proving that consanguineous marriages furnish these asylums with a relatively larger proportion of inmates. 2. Observations comprising particular cases observed by French or foreign physicians, taken from a large number of patients. 3. Assertions regarding the decay of the higher classes, and the comparative value of races called pure, and especially of the Jews. 4. Facts which are favourable to the practice of healthy consanguinity. 5. Historical documents which have reference to the laws of antiquity, and which touch on the origin of the illegality of consanguineous unions.

III. STATISTICS CONCERNING THE DEAF-AND-DUMB IN ASYLUMS.

Our honourable colleague, M. Boudin, had an excellent plan for relieving the Paris asylum of the number of patients who owe their birth to consanguineous parents. He has been led by this means to compare the proportion of deaf-and-dumb cases of this origin, with the proportion of marriages between relations, and the difference between these two products has given him a proximate value of the dangers which these unions present. If, in fact, there are 5 consanguineous marriages in 100, one ought consequently to find 5 cases of deaf-and-dumb children of *consanguineous origin* in every 100 cases of the same nature.

But in order that this plan may lead us to undeniable results, we

must certainly have both the record of all consanguineous marriages, and that of all the deaf-and-dumb. We must, besides, in order to avoid the chances of exception, be able to compare the number of deaf-and-dumb with the total population of a given place, and, in fact, to be able to compare the statistics of many other places with them. If we arrive, by this means, at analogous results, we should certainly have the right to consider them as finally acquired : the case would be so, for example, if this work had been done separately in each department of France. In my first notice on the subject I sketched a plan which M. Uytterhoeven proposed last year at the Social Science Congress at Ghent, as the foundation of a debate which should have taken place there this year.* But the question of consanguineous marriages, already so extensive, having given place to the indefinite one of "Civil Marriage and its Consequences," I have had the sorrow of learning that the question never touched on our subject, and that no statistics whatsoever were produced.

The difficulties which one experiences in obtaining exact reports are besides very considerable, and have prevented many persons who promised me their impartial assistance from giving effect to this promise. In fact, if it is easy by the table of exceptional cases, and the general register of marriages to recognise the number of adult male deaf-and-dumb cases of a department, it is almost impossible to have the register of the deaf-and-dumb of every age and sex, and that of marriages between cousins.

The regulations of the préfecture prescribe the registration of marriages between first cousins, uncles and nieces, nephews and aunts, sisters-in-law and brothers-in-law; but these registrations are incomplete in the towns, and entirely neglected in the communes. In the offices of the *mairie* at Paris, the statistics of marriage are registered monthly with great exactness, with the individual relationship, and it is from these that the clerks register the degree of cousinship. The future parents are not directly questioned, and their relationship is not an object of particular registration, either in the record, or the registers. One can understand, then, how many omissions must be made in the long and uninteresting work of abstracting from numerous records (1000 per month in the 8th district) a page of statistics in which is comprised thirty or forty questions.

But it is not in towns that marriages of relations are the most numerous: it is certainly in the country. Now, in a great many country places (I myself know of three communes), no account is taken of the relationship of parents, excepting in the case where legal

* See the Report of the Meeting, p. 562, 1863.

dispensations are necessary (uncle and niece, aunt and nephew). Most people know that, in general, the communal schoolmaster fulfils the duties of secretary to the mayoralty; these *employés* have usually a manual recommended by the Minister of the Interior,* and according to the instructions found therein they draw up their records; one can read there the enumeration of "eleven declarations common to all the records of marriage," and in these there is not a single question on the subject of relationship.

These instances alone would suffice, I think, to authorise us to consider that the official number of marriages between cousins is very much under the reality, and that they do not comprise the country population, in the centre of which the statistics are regulated. The total number of marriages is, on the contrary, rigorously exact everywhere. Hence it follows that when M. Boudin values, by official documents, the proportion of "relationship marriages" at 0·9 per cent., this number has, in my eyes, notwithstanding its official origin, no scientific value whatsoever, because I know that it rests upon the authority of incomplete data. And that which was at first my opinion only is become a certainty, since I inquired of M. Legoyt, the head of the statistical office of France, the manner in which the numbers published by M. Boudin had been obtained; this official has authorised me to declare that he cannot answer for any statistics, except those which have reference to the legal dispensations necessary for marriages between uncle and niece, aunt and nephew; so, since marriages between first cousins do not require this permission, M. Legoyt is convinced himself that the extracted numbers are incomplete, and he has prepared a circular destined to remedy the various mistakes already noticed. Future parents will be henceforward directly questioned about their relationship; mention will be made in the records of their answers, and there is reason for hoping that, in a few years, we shall learn the real proportion of consanguineous marriages. In the meanwhile I have examined, at the *mairie* of the eighth district of Paris (formerly the first), the monthly records of marriages celebrated during a period of ten years, from 1853 to 1862, and I have obtained from them the following results:—

Total number of marriages,	10,765.		
Marriages between first cousins	-	-	141
" " uncle and niece	-	-	8
" " aunt and nephew	-	-	1
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150			

* Guide du maire et du secrétaire de mairie, par M. Hallez-d'Arros, 1858.

(This number may vary from 146 to 152, on account of three figures which are uncertain.)

These numbers give us a proportion of about 1·4 per cent. And it appears to me impossible to admit otherwise than this, that, in a district of Paris which is inhabited by foreigners, showing a considerable floating population, there are many less marriages between cousins than in the midst of small towns and in the country. This is why, finding here 1·4 per cent., I am authorised to say that 0·9 seems to be three or four times too small a percentage for the whole of France.

But our criticism does not stop there. Starting from the incorrect proportion of 0·9 per cent. of marriages between first cousins, M. Boudin wishes to value the number of marriages between cousins, *children of first cousins*, so as to be able to comprise in the morbid cases, due according to him to consanguinity, those which are observed in children who are the issue of such marriages.

Unfortunately, here all the elements of statistics are completely at fault; in such a case, it is not worth while giving up a value which is necessarily arbitrary. M. Boudin does not understand it thus: he wishes to comprise in his statistics the cousins who are themselves children of first cousins (and even, as we shall see, as far as cousins of the seventh degree), and he believes that by adding 1·1 for these last he has sufficiently valued their proportion in relationship marriages: we thus obtain 2 per cent. ($0\cdot9 + 1\cdot1$) as the number around which to group a large number of deductions. Now, as for this second fraction, M. Boudin is not more fortunate about it than he was with the first; for while he fixes at 1·1 the proportion of marriages between the children of first cousins (and others), I can myself fix it at 5, 10, or 15 per cent. We are here speaking of a matter of pure hypothesis. Every one can choose his own; and since we ought to find three or four times more children who are offspring of first cousins than first cousins themselves, my first number, however exaggerated it may seem, will be much nearer the truth than that of M. Boudin. In whatever way we regard it, it is impossible to agree with M. Boudin that marriages between first cousins are in the proportion of 2 per cent. Such is, however, the fundamental idea in our colleague's essay.

Let us now examine the other elements. M. Boudin announces that among 200 patients he found 95 who had been deaf and dumb *from birth*. I demand, therefore, why this elimination of 105 cases, and I am answered: "Would M. Dally have desired that we should

have examined into the consanguineous origin of those who have become *accidentally* deaf and dumb?" The question is certainly ludicrous; I beg pardon for it, but I must really be allowed to state that the term is here very badly applied: *accidental* is not employed in opposition to *congenital*: *acquired* is, in this case, the proper word. To call the deafness which occurs after birth *accidental* is not using the language of medicine, where, in fact, the word receives a signification quite foreign to that which now engages our attention. But for men of the world, the unscientific class, *accidental* seems to give the idea that ordnance has been fired off close to the ears of M. Boudin's 105 patients. What an absurd thing it would be to endeavour to discover the consanguineous origin of *deaf* artillerymen? This is, however, the very thing which, according to M. Boudin, I reproach him with not having done: evidently he mistakes the sense of the objection. This mistake rectified, I do not hesitate to answer "yes, I should have wished you to comprise in your list the 105 cases that you have eliminated, and a great many more;" for if, on one side, the influence of consanguinity is real, why is it not exercised as well after as before birth? Is it not so with all predispositions and nervous affections? And as to that which regards the inheritance of anomalies, is it not a rule that it shows itself at a certain age, often an advanced one? What is deaf muteness besides? Are its organic causes so well known that we can afford to pass them over in silence? Do we believe that it is an arrest of development, or do we consider that it is an injury entirely functional? Do we not know that there are deaf children who *do* hear slightly at birth, but whose infirmity is strengthened and confirmed as years advance? In the midst of all these uncertainties, we do wrong to the two classes of deaf-mutes—one *congenital*, the other *post nativitatem*—when we declare that the inquiries concerning consanguinity ought only to be carried on with reference to the parents of the former class.

But these objections are entirely theoretical; in practice there is one, perhaps the most serious of all—this is the difficulty of the distinction mentioned after the list of questions annexed to the files, of which the answers are exposed to numberless chances of mistakes; thus a great number of records contain no information; others contain doubtful answers; sometimes they are contradictory. All the world knows, indeed, that it is extremely difficult to ascertain the fact of deaf-muteness during the first months of life; in truth, parents have a great dislike to allow that their child is infirm from birth.

"We must count very little upon the information of parents," says Dr. Bonnafont, "on this point, for they will scarcely admit that whatever there is imperfect in the child was present at its birth; rather than allow any imperfection in the organisation, they lay the blame to the carelessness of a nurse or a servant. Then the parents, by a pardonable illusion, imagine that their child has heard and spoken: that they have seen those mechanical movements of the lips which maternal affection takes to mean *papa* or *mama*, and which the child *appears* to pronounce while trying to imitate the lips of the persons who pronounce these words for them so often."*

One knows, besides, that in statistics, that which signifies most is the greatest number of *similar facts*: *particular* cases destroy one another, and do not modify the final result. I maintain, then, that we must examine the whole of the records to find if the inmates are present, have left, or are dead. Now M. Boudin writes, "Among 200 patients now present, we have found 95 who have been deaf mutes from birth." He ought to have said, "Among 200 records," for his examination was of these, not of the individuals themselves. I take in place of these 200, the whole of the records possessed by the institution—315, and in this number, doubtful cases being struck out, there are 124 who are deaf from birth. I state this result, to which I attach no importance, so that we can at will deduce from either one number or the other (315 or 124) the proportion of inmates of consanguineous origin.

Among the 95 cases of infirmity from birth, M. Boudin announces that he finds the following origins:—

Congenital origin, but not sufficiently established	-	8
Born of parents unknown	-	20
" ", not consanguineous	-	48
" ", who are consanguineous	-	19
		95

"In only noticing the two last figures, we find 19 cases of consanguineous origin against 67 afflicted from birth, that is 28.35 per cent." Now, since the proportion of marriages between first cousins has been already fixed at 2 per cent., it follows that there are in the Paris asylum fourteen times more deaf-mutes of consanguineous origin than there ought to be, and that the danger of having deaf and dumb children in an ordinary marriage being represented by 1, it is no less than 41 in a marriage between relations. This conclusion is

* *Traité des maladies de l'Oreille*, p. 595, 1860.

overwhelming. Happily, however, if we take the trouble to examine this line—"Born of parents who are consanguineous, 19"—this spectre of consanguinity vanishes. In fact, in the 315 reports which I have examined, I find 18 indications of consanguinity, the persons married being as follows :

First cousins	- - - - -	6
Issue of first cousins and others up to the 7th degree	- - - - -	11
Aunt and nephew	- - - - -	1
18		

The six first cousins are : 1. Baillargeat (born in a flat and humid country : a female relation of the mother's deaf and dumb); 2. Berson ; 3. Lesavre (a first cousin of the father's deaf); 4. Maréchal ; 5. Margottin (the mother had her first child at 34 years of age); 6. Fouquet (the mother ill during pregnancy). Six in 315 give about 2 per cent. ; in 124, about 5 per cent. ; in 95 (M. Boudin's own number), rather more than 6 per cent. How, then, can M. Boudin explain even by his own figures the declaration that there are at the Paris asylum in every 100 inmates "16·41 who are the offspring of marriages between first cousins?" M. Boudin has evidently made a mistake between first cousins and the issue of first cousins and others, who are represented above by 11, more exactly by 7. Let us see how this number can be analysed :—

Cousins who are children of first cousins	- - -	4
" of the 4th to the 7th degree	- - -	3
Persons <i>supposed</i> to be relations by the similarity of name	- - - - -	4
11		

It will be granted me, I hope, that the 7 last cases are of no value; as to the first 4, I choose them simply because marriages between the issue of first cousins are not comprised in the official statistics. We have, then, only to take account of 6 + 1 of children really born of consanguineous parents, among a total of 315 records. That will be about 2 per cent. Now, I found at Paris, 1·4 per cent. of marriages between first cousins, and I believe that I am right in thinking that the proportion is much greater for all France than for Paris alone. It may be equal, according to my ideas, to 3, 4, or even 5 per cent. In some places it is 8 per cent., and occasionally above this number. In taking, then, the mean of 2 or 3 per cent., I believe I am under the real number, and this mean is precisely equal to the proportion of consanguineous children in the asylum at Paris.

The difference in the result of M. Boudin's inquiries and my own arises from the difference in these inquiries: I have only admitted into the question marriages between first cousins, and the weakly issue of these marriages; I have proved the inaccuracy of the records of consanguineous marriages; I have rejected the elimination of those deaf-mutes whose infirmity has only been established after their birth; it is for you to judge if I am deceived by following other errors than those of our learned colleague; and whatever opinion M. Boudin may have of my criticism, I beg him to be indulgent on all I have been able to say touching the distinction between deaf-muteness of birth, and that which happens afterwards; for it is himself who has set me the example on this point. In fact, whilst he has endeavoured to determine the number of the deaf-mutes, who, in France, owe their origin to consanguineous marriages, he fixes its proportion at *one-fourth*, not one-fourth of the number of deaf-mutes *by birth*, but at one-fourth of the *total* number of deaf-mutes, a number he values at 36,000.*

In order to complete this analysis, I should like to be able to speak now of M. Brochard's statistics—statistics which rely on the same data as those of M. Boudin, and which are even more summary, since they consist only of three lives. As to those attributed to MM. Landes, Piroux, and Périeu, let us see what can be said of them.

The *Impartial* contains the very interesting inquiries of M. Landes, now a professor at Paris, upon the deaf-mutes in the asylum at Bordeaux. Now, M. Landes has found 24 married relations (as distant as the fourth degree) in 287 *families*, whose children have been inmates of this asylum, from 1839 to 1859, which gives a proportion of about 8 per cent., which ought to be reduced if we take no notice of any except *first cousins*. M. Boudin, in speaking of 24 consanguineous *deaf-mutes*, has committed a double error: believing that it regarded consanguineous deaf-mutes, he placed the number opposite *deaf-mutes by birth*; now, I repeat, it had reference to 24 consanguineous *families*, not to 24 deaf-mutes. The statement attributed to M. Landes, that there were at Bordeaux 30 first cousins in 100 deaf-mutes, reposes then on a double mistake, which it would have been easy to avoid.

I had the pleasure of speaking to M. Piroux last year, on the subject of his remarkable institution at Nancy. At that time, M. Piroux had made no inquiries, and could give no information about the question I was studying. Since then, M. Piroux has published a statement which referred to 612 cases of deaf-muteness received at his

* *Dangers des unions consanguines*, p. 40, 1862.

establishment from 1828 to 1863. He arrived at his conclusions by *retrospective* inquiries, comprising in them the most distant degrees of relationship, so as to obtain 15 and 17 per cent. as a maximum. Why then does M. Boudin speak of 21 per cent.? But if we take from Piroux's documents the relations beyond the third degree, we only find, in thirty-five years, forty-two who owe their origin to parents who are consanguineous, which is a little more than 6 per cent., the number at which we can in France approximately value the marriages between relations.

As to M. Perrin (Lyons), I begged Dr. Jantet, a distinguished physician of that town, to ask him about the statements mentioned in M. Devay's book, and pointed out in M. Boudin's essay. Now here is M. Perrin's answer, "I have never made any statement on the subject of deaf-muteness caused by consanguineous marriages. They were merely some verbal data which I gave to M. Devay. I had hardly remembered the fact myself. Besides, no register of this establishment indicates cases of deaf-muteness caused by marriages between cousins."

So this is what we have to say concerning M. Boudin's numerical data, in name of which some authors have dared to write that it was not any longer possible to contest seriously the dangers resulting from consanguineous unions! As if even one of the figures could be considered as important! As if even one of M. Boudin's disciples gave himself the trouble of examining into his researches! And when we consider that these tables are copied from one book to another, without explanation, with the title of an authentic document, unopposed and incontestable, we cannot be astonished at the slowness with which science progresses; and we are obliged to regret that the spirit of examination and criticism is not in our days held in more honour.

In continuation, I believe I have shown that the statistics gathered by M. Boudin concerning the consanguineous origin of deaf-muteness are entirely incorrect, because the numbers which he has announced are *all* inaccurate or wrong; that is to say, the number of marriages between first cousins, which is not 0·9 per cent., but much higher, and of which we are at present uncertain; the figures determining the number of records concerning deaf-muteness from birth in the institution; those of the deaf-mutes of consanguineous origin, and consequently the conclusions drawn by M. Boudin from this last number, with those of marriages of the same nature.

One figure alone is right. It is that which concerns the number of the deaf-and-dumb in the Paris asylum proceeding from marriages be-

tween nephew and aunt; and this figure is 1. Whence could M. Boudin have discovered that the danger of producing deaf-and-dumb children from this description of marriage was equal to 70 per cent.?

IV. INDIVIDUAL OBSERVATIONS: ENGLISH AND AMERICAN DOCUMENTS.

I have now to examine the numerous pathological facts which have been placed to the account of marriages between cousins. For these marriages do not only produce deaf-muteness, but also blindness, colours on the retina, "albinism", epilepsy, idiocy, mental aberration, sterility, scrofula, abortion, numberless deformities, children with six fingers (*sex-digitisme*), hare-lip, "all the predispositions", and even "red hair and freckles on the skin"! Most of these facts rest on one or more individual observations, more or less convincing, and even more confusing; so, in order to analyse in a methodical manner the question on which we are employed, it is convenient to divide the documents we are about to examine into two groups.

A. Facts which relate to observations concerning sickly children in whom is discovered a consanguineous origin—*the indirect method*.

B. Facts which relate to direct and individual observations concerning married relations—*the direct method*.

A. *The indirect method.* When we have satisfied ourselves that a patient is suffering from a disease or infirmity the origin of which is not recognised, we are often led to examine into the truth of some hypothesis concerning all the individuals who show the same peculiarities as the first one. Now, we cannot fail to arrive at an affirmative solution, whatever may otherwise be the supposed cause, if the observations are made on a great number of cases; for we are almost sure to meet with the hypothesis a certain number of times, and by this we are led to give a particular action, great or small, to the hypothesis, in the production of this disease. To explain my idea better, I will suppose that a pathologist has, in his own mind, attributed congenital blindness in a great measure to syphilis, and, in order to verify his theory, he asks the parents of the blind, who are under his care, if they have ever had syphilis. Now, I will suppose that in one hundred cases he is answered twenty-five times in the affirmative; he hastens to declare, with the usual reservations, that in one-fourth of the cases of congenital blindness, syphilis has appeared to be the true cause of the infirmity.

Allow me to proceed farther, and to suppose that we have to do

with a very honest, but obstinate theorist, impelled by the very laudable desire of recommending future parents to avoid syphilis. What will this pathologist do? he will forget the number of observed cases; he will publish his twenty-five observations of congenital blindness due to syphilis; his publication will provoke a hundred other communications of the same kind, and at the end of a certain time there will be a certain budget of facts collected which will prove, so far as evidence goes, that the most positive cause of blindness is syphilis in the parents.

Here, again, is another pathologist, who considers that the abuse of strong drinks is the principal cause of blindness; a third, who attributes it to the illness of the mother during pregnancy; a fourth, to the habit of sitting up late at night, etc. Each of these causes will verify itself a certain number of times among the parents of a hundred patients, and very soon it will not be the causes which are wanting for ailments, it will be the ailments which are wanting for the causes!

This method, which has a prodigious effect upon persons who are unaccustomed to scientific argument, has been employed with success in the question of consanguineous marriages. Whenever anybody saw a deaf-mute, he endeavoured to find out about the relationship of the parents, and these researches were sent to the Academy of Science, or to our Society, and published in different collections of reports. Such are most of the facts recorded by MM. Devay, Forestier, Duteval, de Ranse, Rousseau, Ponsin, Rizet, Balley, Broclard, Chazarain, Chipault, etc. I take sixty to eighty as the maximum number of cases determined by ten or twelve physicians.

There is much to say about these facts alone; and in my former work, I showed that, in the great majority of cases, they had neglected to mention circumstances which would have rendered their observations useful, not only to the theory which is being considered, but for etiology in general. The small number of cases observed, according to scientific rules, evidently admits of no conclusion. I will allow, for a moment, that a hundred cases have been collected in which children tinged with disease have been born of consanguineous parents in good health. In these hundred cases, they reason thus: nothing explains the illness of the child excepting one circumstance alone, the consanguinity of the parents; therefore, consanguineous parents bear weakly children. What can be more absurd? what more specious, or more "showy" for the generality of people? Take a certain number of deformed children and choose from them one hundred whose fathers, otherwise well formed, have brown hair or any other

distinctive mark. You say, at the same time, that you have no reason to give for these deformities (this is the rule), and add, one particular feature is common to all these patients: their fathers have brown hair; hence men with brown hair have deformed children! Your etiology will be as well founded as the foregoing.

I shall be told that there is no connection between brown hair and consanguinity. In fact, one cannot see by what reasoning brown hair can lead us to gibbosity or club-feet. So be it; but who would not be curious to ascertain by what path consanguinity can, *ipso facto*, lead to *sexdigitisme*, or deaf-muteness? For we must insist upon this point, they do not accuse inheritance combined by the union of two diseased individuals, of near relationship, and bordering on some pathological result; which would be a theory worth examining, because it refers to an important part of physiology—inheritance; no, they desire that consanguinity should produce these terrible effects in the absence of all inheritance, in spite of inheritance! They wish to introduce a new law into science. We have seen with what trouble, and at the end of how many years, the French physicians have been able to gather a few cases of infirmity among children of consanguineous parents. It has not been the same, however, in America. There Mr. Morris has observed 4013 children of consanguineous birth, among whom he has found 2580 cases of deformity.

It is prodigious: Mr. Morris must have passed his life running after consanguineous children, to have been able to "study" 4013 cases! M. Boudin mentions this. It is true, he does not mention his authority,—a fact which takes away from the statement, not, indeed, its miraculous character, but all its value. Nobody has, besides, been able to inform me of Mr. Morris's scientific position. M. Devay has quoted statistics even more extraordinary than these. "In Ohio," he says, "among 3,900 children (consanguineous), 2,490 are afflicted with serious deformities or complete idiocy." The authority for this document is not any more indicated than that of the foregoing one in M. Boudin's work: three of our colleagues have endeavoured to discover it, but without avail. I have denounced this extract as unworthy of credit, and nobody has relieved it of this imputation. But I render this justice to M. Boudin, that, in the new edition of his *Essay*, he has not reproduced it. The same fate is doubtless reserved for the magnificent statement made by Mr. Morris, who, besides this, says absolutely nothing. I refer on this point to what I stated above.

b. *The direct method.* I give this name to the method which consists in observing *directly* consanguineous parents and their offspring.

It is certainly superior to the former. It would be excellent if it were possible to examine *every* consanguineous marriage, in one or many departments, and to calculate the number of infirm children born of these marriages. We could compare the proportion thus obtained with that which would result from the examination of all other marriages; if the possible excess from one side or the other could not be connected with any other cause, and if a like result was obtained in one or many departments, the question would be settled. Nevertheless, it appears doubtful to me that such a work would be possible; whilst the plan proposed above, which is quite as demonstrative, is certainly quite easy of execution. But the statistics which have been published are far from offering this guarantee; they seem to us to be tainted with a radical fault. It seems, at first sight, that if we could compare a hundred marriages between first cousins with a hundred ordinary marriages, the examination of the respective registers of births, still-births, invalids, and deformed children, would bring us to some result; and yet the least reflection will show the fallacy of this; for one can at will choose a hundred ordinary marriages whose issue may all be very healthy, or a hundred other marriages whose issue may be more or less sickly: the same with reference to consanguineous marriages. One can guarantee more than a hundred marriages without one case of a weakly child,—a method which makes such a path for the progress of a theory is thoroughly wrong. This is why the statements of M. Bémis (34 marriages, and 192 children, of whom 47 are sickly) and of Mr. Howe (17 marriages, and 95 children, of whom 44 are idiots and 12 scrofulous) are of no value whatsoever. What would be said if I went to a child's hospital, and taking the names of the parents of the first hundred cases of deformity I may happen to meet with, should thence conclude that there are a hundred cases of deformity to *every hundred marriages*? However, in France the adversaries of consanguineous marriages have not been so happy as M. Bémis and Mr. Howe. M. Devay has observed a hundred and twenty-one consanguineous marriages; although he does not mention the total number of children, let us consider them, according to the mean (3.5 children to each marriage), at 423. Now, M. Devay has only found thirty-five cases affected either by true pathological disorders, or by accidents which have destroyed the powers of generation. Among these 423 children born of consanguineous marriages, we should expect to meet with deaf-mutes, blind, idiots, etc., etc. Nothing of the kind. We find 22 cases of *sterility*, with or without abortion, 5 cases of club-foot, 1 case of anencephaly,

2 of hare-lip, 1 case of *ichthyosis*, 1 of *enchondroma*, 1 of *spina bifida*, 2 of albinism. We are thus a long way from 66 idiots and scrofulous patients among 95 children!

In continuation, M. Devay finds 35 cases of disease, or pathological accidents, in 121 marriages, and 423 children. I believe that this proportion is equal or inferior to that which we should discover in 423 children *not* born of consanguineous parents.

Among the authors who have chosen this direct method, some have *proved too much*; the others have not proved enough. They have established nothing definite against consanguineous marriages. Such is the balance-sheet of the numerical documents on the question now before us.

V. CONCERNING THE ARISTOCRATIC TYPE AND PURE BLOOD.

M. N. Périé, in his second paper ("Essai sur les Croisements Ethniques"), has treated the subject of the old noble class of society with too great skill for me to say much on the subject. He has shown, that, so far from offering disadvantageous conditions of health or longevity, the aristocratic classes are even exceptionally favoured: and when M. Devay quotes, as supporting his theory, the fact that out of 61 persons belonging to the most illustrious families of Dauphiné, who composed the company of Bayard's men (*hommes de Bayard*), there remain only 5 descendants, he gives to these families a descent more lasting than is the average. Benoiston de Châteauneuf has besides established that when noble families degenerate, it is *because* they degrade themselves by marriage. If Dr. Nott (quoted by M. Boudin) pretends that the reputation of the House of Lords in England would have been extinguished long ago, "*unless the crown had continually created new lords from among the robust sons of the people*," Dr. Nott and those who quote him completely misunderstand the conditions under which an English citizen is raised to the peerage. We can affirm that, for a very long time, account has been taken of only two circumstances as deserving this dignity—long and useful services and personal fortune. Do we ordinarily designate by the name of "*robust sons of the people*" the magistrates, the generals, the learned men, the rich landowners, who fulfil the conditions required for a peerage? Dr. Nott's remark is then quite incorrect.

Besides, one must be endowed with very little of the spirit of observation, not to perceive the great part which in our days is played in various lands by the descendants of our ancient aristocratic families: in literature, in politics, in parliamentary life, in the navy, in the

army, even in science, and this in spite of the hostility of the age, the destruction of fortunes and privileges, in spite of alliances with citizens. We can say, without hesitation, that wherever we find dominant and privileged classes who know how to maintain their exclusiveness, they know also how to maintain their dominion. To give a lively example of it, how can one suppose that in those colonies where the negroes are governed by white men, these latter could maintain their power if they intermarried with the blacks? I hope, besides, to bring forward some decisive facts concerning families of consanguineous origin in ancient Greece. I limit myself here to the declaration, that having consulted many Englishmen concerning the personal valour, appearance, and beauty of members of the English aristocracy, they have declared that they are distinguished from the rest of the nation not less for their physical valour than for their intellectual strength.

But the question takes even larger proportions than these. We have passed from individuals to families, from these to classes, from classes to races, and this extension given to our discussion is not only logical, it is necessary; for, to say the truth, the only doctrine we now sustain is the superiority of pure races over crossed breeds.

The superiority of individuals of consanguineous origin is but a mediate, remote corollary, to the superiority of pure races. And since a fact studied in the case of an individual is surrounded with elements much more complex than it is in the case of a group, it follows that we can affirm concerning a collection of individuals a law which, as regards the individual himself, is somewhat rigorous. Exceptions, in fact, disappear and are confused in the collection of general facts; but, if we neglect these, we risk the deduction of false rules, established by an insufficient number of particular facts. This is why I do not accept the reproach of *confusion* with which M. Boudin charges me in the last edition of his *Mémoire*. I have endeavoured to prove that ethnic cross-breeding, so far from favouring its issue, engenders mixed breeds inferior in proportion to the physiological differences between the crossed races. "M. Dally," says M. Boudin, "confounds here two things destitute of all joint connexion,—cross-breeding in families, and cross-breeding in races." On this point I appeal to the opinion of my colleagues: far from confounding these two points, I render one subordinate to the other.

A pure race is an exalted result of primitive consanguinity. Two couples who unite indefinitely their branches, without marrying out of their circle, ought to constitute a race. The alliance remains con-

sanguineous so long as no fresh element establishes a cross; it is when we apply this latter term indifferently to races and families that we cause confusion. The alliance of two families of the same stock is a consanguineous alliance, whatever may be the distance of the relationship; when these stocks are as distinct as are, for example, the Negroes and the native Americans, one has an instance of a *mixed breed*; we have an instance of hybridity when the anatomo-physiological differences are so considerable as to make us consider the two generations as different species; and further, when the issue is not fruitful between them from the first generation. Such is the probable, but not sufficiently established case, of the Anglo-Saxons on one side, and the Australians and Tasmanians* on the other.

I willingly admit, however, that the definition of the terms *consanguineous*, *cross-breeding*, *mixed-breeding*, *hybridity*, leave much to desire, and that the sense of their meaning is far from being established; I admit, besides, that the multiplication of European cross-breeding renders necessary a special designation, in order to distinguish the alliances of relationship from consanguineous alliances, properly so called; and in the absence of any special term, I admit that we can without inconvenience, restrict the signification of this latter term so as to call *consanguineous* marriages, marriages of relationship. But with regard to this concession, we must be prohibited from calling every marriage, which is not consanguineous, a *cross-marriage*; for a cross-marriage is understood of two individuals of distinct races. Clearness of expression, this condition of all scientific harmony, is completely wanting, it may be seen, in our honourable opponents.

These explanations having been given, I return to the subject of pure races. We have seen that M. Boudin denied any connexion between the question of races and that of families. "As to the danger there is in a brother marrying a sister, or a father his daughter, it does not follow at all that there ought to be any benefit when an Englishman marries a Tasmanian, or a Frenchman a Hottentot." This inference is very amusing; we give our opponents credit for its invention, which cannot fail to cover them with ridicule. I shall not care to profit by the liberty which such a thing offers me; and I shall not forget, I hope, the respect which I owe to a colleague who has given so many proofs of his love for science. But am I wrong in thinking that M. Boudin, even in the title of his essay, admits the connection of the question of races with that of families?

* See on this point Dr. Nott's *Types of Mankind*, p. 572; and M. Broca, in the *Journal de Physiologie*, p. 654, 1860.

In the first edition of his paper I read, "necessity of cross-breeding in the human race;" in the second, "necessity of the cross-breeding of families." If cross-breeding in families is necessary, the same thing among races is also necessary; and if "crossed" families are superior to pure blood, why refuse the same superiority to crossed races? Is a race anything more than a large family? Not to suppose that a creation of millions of human beings was produced at once, has not a race its origin in a family, which had for its own origin two persons? And till the day when this family is crossed, who can say if the theories of MM. Devay and Boudin are correct? who can say what it has engendered, deaf-muteness, blindness, cretinism, idiocy, hare-lip, etc.? Cross-breeding has happily come to remedy all this, and from this day the superiority of the new race is dated,—this is what our opponents must admit, if they wish to be logical. However, those who believe in the unity of origin of the human race, ought to find themselves in some degree embarrassed in establishing the first *cross*; and those who bring forward sterility among the inconveniences of consanguineous marriages, ought to be astonished at the prodigious multiplication of mankind.

Besides, it is quite recently that our eminent fellow-member thought proper to separate the cause of pure races from that of pure families; his predecessors and his disciples accept all this connection—quite fatal to his own theory. M. Devay, in the answer which he did me the honour to dedicate to me, has said nothing which could make one think that he rejected it. But he has left without refutation the arguments which I have drawn from the inferiority of crossed, half-bred, or hybrid races. M. Boudin, who had no motive in answering on this point, since the two questions have no connection in his eyes, has, however, taken the pains to oppose me with several extracts from the writings of Hombron, D'Orbigny, Lallemand, and Levaillant. Relying myself upon the authority of Jacquinot, Nott, Van Amringe, H. Smith, and Broca, I have urged that the half-breed between blacks and whites were probably sterile between them, and in the absence of all cross-breeding in return, beyond the third or fourth generation. M. Boudin answers that, according to M. Hombron, "marriages between mulattoes and mulatto women are extremely fruitful." Now the word mulatto is understood to be the *first* half-bred generation, and not the third or fourth. The extract from M. Hombron has, therefore, nothing to do with the question. The same may be said of the extract taken from Levaillant, who asserts the same regarding the Hottentots and the whites.

There remain D'Orbigny and Lallemand. The first speaks of cross-breeding between the "various American races" (*id est*, of the same race), which he considers superior to the two types *mixed*. It is a simple *mélange*. Lallemand quotes the families formed by Germans married to women of the South of France, as being very beautiful and healthy. This is the opinion of Lallemand; it is important, but it must be noticed that he speaks of a cross between two very similar races. And while we are speaking of this author, I hope M. Boudin and his copiers will allow me, for the sake of the learning of their successors, to restore an important part of a sentence, the absence of which is not even indicated in the abstract which he makes from it. Lallemand said: "When alliances are too much restricted, *they tend to redevelope the predominance of their distinctive characters*, and finish by breaking the equilibrium necessary for the normal development of the constitution." M. Boudin has omitted the italicised words—words very important, too, since they show the reasons for which this learned man disliked consanguineous marriages: the reason of excessive or morbid inheritance. Now one knows that, very far from admitting that it is in virtue of the laws of inheritance that consanguinity is dangerous, MM. Devay, Boudin, and others wish that it should be *ipso facto*, in the absence of all morbid inheritance, and *in spite of inheritance*, that it should produce its terrible consequences. I hope that I have restored to M. Lallemand's extract its true signification.

I return now to pure races. If M. Boudin rejects the connection of the question of races with that of families, of what value then are the observations he has made on the Jews for his actual theory? Why these statistics and extracts? Recognise the joint connection, or suppress these superfluous documents. But I understand it is not so much that the Jews, as a pure race, may be subject to collective infirmities, but because marriages between very near relations are more frequent with them than with Christians.

Such is not the opinion of the chief rabbi at Paris. This ecclesiastic remarks that, "between cousins, alliances are everywhere permitted with slight hindrances from canon law, which are made to disappear without any difficulty." All the world is of the opinion of the rabbi. All the world knows that, since certain great historical events which have not contributed to the prosperity of the French nation, the Roman Church has never refused to grant the necessary canonical dispensations. M. Boudin, however, appears to contest it. "It is merely a personal opinion of the chief rabbi, and one which

seems very questionable." Very well; let M. Boudin question it! It is the case of applying the numerical test. It is, then, a pure supposition of M. Boudin, in considering that consanguineous marriages are more frequent among Jews than among Christians; and, lest our colleague should come at last to accept the connection which he rejects, he is no longer authorised to use facts for his cause which he can lay to the account of the Jewish race. These facts belong to the question of the value of pure races, and not to that of relationship marriages.

Now what are these facts? It is asserted that "the Jews have lost the strength and beauty of their race." "Nobody," says M. Devay, "denies this fact." This is incorrect, for the fact is denied: if it had been proved, it would besides be susceptible of other explanations. It might be said that it is precisely since the barriers have been lowered which separated the Jews from European Christians, that this decay has been discovered; and this explanation would be quite favourable to the question of pure races. And more, we may remember that this singular development, under all latitudes, of this race, so cruelly persecuted both by Romans and Christians, has been effected by means of a forced consanguinity: now, since the decay of a race is a very common historical phenomenon, the causes of which are extremely complex, complete ignorance is shewn in attributing it to a cause which is not found among other degenerated races. In every case, the Jewish race, standing alone in the midst of European movements, has shewn an unequalled vitality. This example, then, is unhappily selected; it is among those which the partisans of consanguineous races like to quote, in relying on the inquiries of M. Boudin himself. But this decay is so problematical, that it is, I believe, useless, to insist on it. That which is less doubtful, is the fact that the Jews furnish, in Germany, a larger proportion of lunatics than are found among the Christians. In fact, it seems from tables produced by M. Legoyt, that there is one lunatic among 908 Romanists, 967 Protestants, or 514 Jews (Bavaria). Analogous figures are produced for Hanover, Silesia, and Wurtemberg. These tables are of German origin: M. Legoyt, so far from wishing to prove nothing from this, adds, "Must we see in this frequency of lunacy among the Jews an influence of race, or merely the consequence of this fact—that they inhabit those towns, and exercise those professions, the most exposed to economic crises? Must we see there, like Dr. Martini, the influence of the fact that marriages of near relationship are more numerous among the Jews than among

Christians? Ought we, perhaps, to admit the concurrence of these three causes in the production of this phenomenon?"

If the German tables are correct, it is certain that the above-named cause is much more probable than the others. We know, indeed, that towns furnish a larger contingent of lunatics than the country; and we know, also, that the professions generally followed by Jews are those which, beyond all proportion, predispose in the highest degree to mental aberration. Such are the artistic, financial, and learned professions. Unhappily, we do not possess in France any document which would allow us to check the German statistics. We do not even know exactly the number of the Jewish population of France.

Nevertheless, a Berlin physician, M. Liebreich, has drawn up at the deaf-mute asylum of that town an overwhelming account, not with regard to consanguineous marriages, which are not more frequent among Jews than Christians, but with reference to the Jewish race. Among 223 deaf-mutes, born at Berlin, M. Liebreich has found 23 Jews; and in the total population of 341 deaf-mutes, 42 Jews. Whence it follows that, whilst the Jewish population of Prussia only represents, according to M. Boudin, the sixty-second part of the total population, the deaf-and-dumb Jews constitute about the eighth part of the total number of the deaf-and-dumb in the asylum at Berlin.*

Far be it from us to doubt the scientific honesty of M. Liebreich; but when foreign statistics reveal to us a fact so strange and so contradictory to that which we can prove in France, we can only accept his statements with a great deal of reserve. We have proceeded in the same manner with the statistics offered by M. Boudin, whatever opinion we may have of his good faith; and it will be seen that we have done right.

The chief rabbi has told us that the Jewish population of Paris has

* In M. Boudin's first edition, the words "223 deaf-mutes born in Berlin", did not appear in the text. It was merely a question of the total population, 341. I have, then, rightly objected that the inmates of the Berlin asylum consisted in part of Jews coming from all parts of Germany, and that it was not right to take the number 42 in order to compare it with the Jewish population of Berlin. M. Boudin (and after him M. Chipault, who, without recognising my work, has contented himself with copying M. Boudin) asks me if I admit that a person can be born at the same time at Berlin and in some other place? I will content myself with answering MM. Boudin and Chipault that I am not one ready to see a double meaning in an expression. In truth, there is at the foot of p. 14 a note, which corresponds to a false reference. If M. Boudin refers to this note, he ought to have said so. I spoke of the text, and I maintain that in this, it was not a question about the deaf-mutes born in Berlin.

raised itself to more than 25,000 souls: in this number there are not *four* deaf-mutes. The asylum at Paris, containing more than 200 of the same class, has only two Jews among them, or 1 per cent., whilst at Berlin there are nearly 13 per cent.; there would be at Berlin 27 deaf-mutes in 10,000 Jews, whilst at Paris, in the same number of Jews, there are only two or three deaf-mutes. One statement is here certainly in opposition to the other.

M. Boudin, in his answer to the chief rabbi, gives us a particular specimen of his way of understanding statistics. We have seen that the Paris asylum contains only two Jews, both coming from Bordeaux. Now, our ingenious colleague, admitting with the chief rabbi that there are in France 100,000 Jews, or one Jew among each 360 Christians (M. Boudin says one Jew among 360 Frenchmen, as if the Jews were not French), concludes that only one deaf-and-dumb Jew ought to exist among 360 deaf-and-dumb Christians. Unfortunately, there are only about 200 deaf-mutes in the Paris asylum. One ought only, then, to find there one "*demi-Juif*" (*sic*); now there are *two* of them! "The consequence is," says M. Boudin, "that the *real* Jewish contingent of deaf-mutes in the Paris asylum exceeds by four times the *legal* contingent."

M. Boudin is very particular: not always so in his calculations (for it is not *0·5 of a Jew* he ought to find, if the Jewish contingent were *legal*, but $\frac{1}{20}$ of a Jew—*0·55*), but in his appreciations. What are statistics worth when thus understood? If M. Boudin had only found a quarter of a Jew, would he have said that the real contingent was inferior by one-half to the *legal* contingent? and if the observation had been made before these two patients came from the Bordeaux asylum, must we conclude that the Jewish population furnishes four times less deaf-mutes than the Christian population? Besides, M. Boudin is not quite "up" on the subject of the Jews of the Paris institution. In the first place, they were not deaf-mutes from birth; one became so at two years of age, the other at four years. Now, M. Boudin strikes these cases out of his statistics, and reproaches me for not admitting the justice of doing so. Then why speak of the two Jews in question, who have become deaf-and-dumb long after their birth? In the second place, the parents of these two Jews (there are three of them now) have *no tie* of consanguinity between them. So that, in truth, there is not in the Paris asylum even the least fraction of a Jew of whom M. Boudin can take notice in his statements.

I regret to be obliged to enter into such details; but we can only

obtain a fair idea of the value of such statements by examining them minutely. And, to finish with the subject of French Jews, I may remark that, if there are in Paris four deaf-mutes in 25,000 Jews, the proportion is less than that of the entire population of the department of the Seine, where, according to the official reports, there is one deaf-mute among 4,694 inhabitants; equal to about five in the 25,000. M. Vaisse, chief of instruction in the asylum at Paris, has done me the honour to write to me, and give me important information; and he adds that "the Paris institution has only brought up a very inconsiderable number of Jews. *It has sometimes contained one or two, and often none at all.*"

We see, then, that it would be advantageous to give more authority to M. Liebreich's statement by examining it carefully. Now, if it is verified, we shall have a curious fact before our notice, and probably, a fact concerning *a race*, not with reference to marriages between cousins, which, we repeat, cannot be more frequent in Prussia, where the Jewish population is numerous, than among the Christian population. But why has not M. Liebreich inquired into the relationship of the parents of the 42 deaf-and-dumb Jews at Berlin? This forgetfulness astonishes us on the part of an adversary to consanguineous marriages. If, in fact, a large proportion of the parents of these 42 Jews were blood relations, we should certainly have been informed of the fact. Perhaps, as at Paris, they have not been able to prove a single case of consanguinity. At all events, we have the right to presume that it is so.

But who speaks of the degeneracy of the Jews? Who produces foreign papers which seem prejudicial to the healthy condition of the race? It is the author of those ingenious works on the "non-cosmopolitanism" of man; he who endeavours to show that the Jews can perpetuate themselves in all latitudes, that their population has doubled in fifty years, that the mortality among their children of tender years is less than among others by more than one-third in some countries, by one-half in others; who, in fact, would make us conceive the most unbounded hopes for the Jewish race.

We have already said too much about the Jews to permit us to broach the subject of the value of other races, more or less pure; a question which sooner or later must be discussed; for there is not one which is grander or more worthy of our anthropological studies. In the meantime, I commend to the perusal of my opponents the following extract from M. Gobineau's work—a work of great importance, too—*Essai sur l'inégalité des races humaines*. "I think, then, that

the word *degenerated* as applying to a people, ought to signify, and does signify, that this people has no longer the intrinsic value it formerly possessed, since there is no longer the same blood in its veins, and the successive "alloys" have gradually altered its value. In other words, with the same *name*, it has not preserved the *same race* as its founders; so that a man of the decayed period, what we call a *degenerated* man, is a different person, in an ethnic light, from the heroes of the golden days of the race. The heterogeneous elements which henceforth predominate in him make up an entirely new nationality, and one unhappy in its originality: he now only belongs to those he called his ancestors, in a collateral line. He will in the end die out, and his civilisation with him, in the day when the primordial ethnic element is found to be so subdivided and overwhelmed by the mixture with strange races, that the virtuality of the element will not henceforth be able to act with sufficient power."*

VI. FACTS FAVOURABLE TO HEALTHY CONSANGUINITY.

I have hitherto restricted myself to the criticism of the facts which have been brought forward as unfavourable to consanguineous marriages. I shall now have a good many observations to offer which are sometimes negative in regard to the asserted dangers, and sometimes very favourable to these unions. I have, in fact, gathered together more than thirty cases of this order, comprising about 100 healthy children: these cases have been pointed out to me either by physicians, or by persons who know nothing about medicine, to whom, in general, I have not communicated the design of my researches. But what can these facts signify? Will they escape the criticism which I have myself made on the facts stated by my opponents? Assuredly not. I could collect a thousand of them; but that would not help me. What we want are *comparative* reports, and that is why M. Boudin's method, *when properly applied*, is an excellent one.

I have also collected some pathological cases among consanguineous children. Three of these cases come from a friend who acknowledged himself that there is still much to describe concerning hereditary maladies, but who has not been able to give himself up to these researches. One of our colleagues, Dr. Defert, has been more fortunate; he has been able to observe two cases, one in his own family, the other among his patients. The first case has reference to a person who marries a woman with whom he has no tie of relationship. He has two children, who both die. Having become a widower, he mar-

* *Journal of the Statistical Society, Paris, 1853, vol. i, p. 9.*

ries his first cousin, and as issue of this marriage, he has one healthy girl, who is now of a "certain age." In a second case of marriage between first cousins, the young wife had three miscarriages, one after the other, each at six weeks. We should be inclined to put this case to the charge of consanguinity, if we were ignorant of the fact that the young woman had been constantly liable to dysmenorrhœa since puberty, and of this character too, that she had at every return of the menses a considerable uterine congestion, and finally uterine hemorrhage. We see how difficult such a study is!

It is not my intention to speak of the thirty cases which I have gathered together; if I have quoted these two, it is because they were particularly observed. But I cannot, however, omit the fact that I have for a long time been able to watch a marriage between first cousins in a Russian family; one of the persons is afflicted with a scrofulous affection which has caused some very severe disorders; his wife, although naturally of a good constitution, is far from being well, but from entirely accidental causes. They have had five children: only one has been delicate in its infancy: at present they enjoy the best possible health, and they have passed the most critical periods of their first youth without any accident. They have, in fact, much better health than their parents. We notice, besides, a considerable number of consanguineous marriages in this family: all with excellent results.

The documents communicated to the Academy by Messrs. Bourgeois and Sequin are more conclusive than the preceding facts. We know that M. Bourgeois has brought forward the history of his own family, in which 68 marriages, all of them "overburdened with consanguinity", have produced excellent results. M. Sequin has supported the conclusions of M. Bourgeois before the Academy of Science, and he has given the history of ten consanguineous unions between his family and that of Montgolfier, without one case of a weakly or deformed child.

Our colleague, M. Lagneau, whose scientific mind we all know how to appreciate, has quoted to us the example of the families P— and N—, "whose members, after having been united eight times among one another in the space of eighty-seven years, from 1694 to 1781, have still at the present day healthy descendants in this country."

Again, a distinguished pupil of the Paris hospitals, M. B—, has communicated to me an analogous case drawn from his own family. I here give a copy of his note on the subject:—

"It seems, from information which has been handed down to me

by my family, relating to a period of about one hundred and fifty years (*i.e.*, counting from the great grandfather of my father), that five generations have married among their first cousins: the degree of relationship has never descended beyond the *first cousins*, excepting in *two cases*, where the *daughters of first cousins have been married by their second cousins*. These five generations have contracted a certain number of marriages which I am not able to particularise, and in which the mean number of children has been 3 or 4. The total number of branches as direct as collaterals has been 120 to 140. There has been no idiot or deaf-mute met with. Two females only have died of consumption; one without any appreciable cause, the other from catching cold. One only has been seized with senile insanity at the age of 68, three years before her death. No predisposition, except the rheumatic predisposition common only to a few individuals. My family has included many physicians, who, although imbued with prejudices against consanguinity, have themselves judged of it by its results, and have only been able to encourage it. I may add that the number of "branches" is the more surprising since a great number of them have devoted themselves to a life of celibacy, or have made religious professions."

I have particularly copied this note of M. B——, and have given it literally. He did not wish his name published, and is going himself to marry his first cousin.

These three facts are, besides, the more remarkable; for if consanguineous marriages presented any dangers whatever, it should certainly be in these cases of consanguineous unions, multiplied between two families. Well established facts of this description are worth a hundred contrary facts; for we must not forget that we only think of collecting observations in which there is something unusual, and accordingly, the ailments of consanguineous children are very quickly quoted and requoted, while consanguineous marriages, which have nothing extraordinary about them, are forgotten. One more important remark for the sake of criticism, and it is, that isolated observations concerning the diseases of consanguineous relations prove absolutely nothing, for these diseases are not special to these individuals, it is only their *relative* proportion which can prove anything. On the contrary, isolated observations on consanguineous marriages are inconvenient, since their offspring prove that the dangers are illusory. This difference, which seems a paradox, may be illustrated by the following example. If I place two first cousins in an island, and at the end of several generations the island is found peopled without having one case of birth infirmity, I have the right to declare that in this particular case the

consanguinity of the parents has had no bad effect. But if I saw deaf-mutes appear in this same island, I have then no right to accuse consanguinity of this; for, in the first case, the demonstration of my conclusion is complete, *ipso facto*. In the second case, there is no possible demonstration; in fact, other reasons than consanguinity may have caused the appearance of deaf-muteness; and I can choose one of them according to my own fancy—according to my own particular ideas.

This example leads me to consider a new description of proofs, invoked one after the other by the opponents and defenders of consanguineous marriages. I wish to speak of certain groups of individuals, who, by reason of various circumstances, such as geographical position, traditions, professional, social, or religious differences—are isolated, and almost forced to contract marriages of near relationship. In certain small countries the aristocracy are of this class; but we will not return to this subject—we gave it our former examination. There is room for making, on the subject now before us, some researches among the islands on the French coast, at the same time being careful to guard against any local influences which may have a hand in the production of disease. We speak, be it well understood, of proportional and comparative researches, for isolated facts are of no importance. In the Oceanic islands, a number of tribes, who certainly do not shine by the beauty of the forms, are quoted from the notes of Hombron, Duroch, and Lesson, and these quotations having been made, it is pretended to have proved that in *every place* where alliances are circumscribed, consanguinity causes great ravages! The author of these quotations has not even taken the trouble to compare the congeneric tribes; he does not say a word about the form of marriage, and yet he pretends to have *proved* something!

For want of neighbouring islands, let us remember that M. Périer has mentioned, according to M. Yvan, the beauty of the inhabitants of the island of Réunion, who descend from a few couples only, and yet have known how to preserve their purity of blood,—for most of the French colonies, when they are prosperous, offer the same character; in fact, we may remark even in France itself, isolated spots or isolated groups of individuals in the heart of a mixed population; there are very few travellers who have not noticed it, and this has never been with a view of establishing their degeneracy. Among this number are most of the little fishing villages on the coast of France, where the sailor population lives side by side with the agriculturists without ever marrying among them. Such is Pauillac

(Gironde), about which my friend, Doctor Ferrier, has written me a letter, from which I take this extract:—"Pauillac contains 1,700 inhabitants, most of them are robust, vigorous, and well-made sailors; the women are renowned for their beauty and the clearness of their complexion. There is, perhaps, no other place in France where consanguineous marriages are more frequent, and where the case of military exemption is more rare." Such, also, is Granville, where the maritime population, quite distinct and isolated, are a very fine set of men; Arromanches, a little village of less than 100 fishermen, who have very little sympathy for "earth-workers;" such is, above all, Portel, near Boulogne, a village containing some hundreds of inhabitants, who are all allied among one another in the closest relationship, and who never marry among those whom they call "the shepherds" (*bergers*). Batz, in Brittany, is a commune containing 3,000 souls, about whom Dr. Voisin furnishes the following information:—"The nucleus of the population is composed of nine families. For a very long time the inhabitants of the town have married amongst one another, except in very rare instances. In that part of the country it is a title of nobility to belong to the town of Batz, and it is rare to hear of unions with the people of Croisic or Pouliguen. The inhabitants of Batz are either workers in salt-pits or fens, and pass their lives in the open air, near the sea, in the salt-marshes; their chief labour is the preparation of the salt; both men and women are extremely robust, of a good height, and perfect health. Their hygienic condition is admirable, and misery is unknown in the country. I find, besides, from my notes, that there are very few of the inhabitants who are relatives beyond the sixth degree, for the most part their relationship is of the third or fifth degree: the children are numerous, and average from two to eight for each marriage."

M. Gubler, in a recent journey, has been able to establish the extraordinary beauty of the inhabitants of Gaust, in the valley of Assau, in the midst of the Pyrénées. The custom of marrying relations is so inveterate among them that, before marrying an inhabitant of another commune, the young men of Gaust ask permission from the chief men of the place; and yet this little place contains barely two hundred inhabitants. Analogous facts are cited by M. Perier concerning the village of Uchizi, not far from Mâcon, and of the canton of Saint-Martin d'Auxigny, near Bourges. Our friend, M. Maximin Legrand has mentioned the same facts about the town of Ecuelles, near Verdun-sur-Saône; and I think that I could quote a hundred, perhaps a thousand, places in France which fulfil the same conditions.

In all this there is a special work to be done, which may demand many years of patience, which the Anthropological Society will be able to accomplish little by little, thanks to the excellent table of questions on the ethnology of France which has been prepared by our friend, M. Lagneau.

VII. HISTORICAL AND LEGISLATIVE DOCUMENTS.

We have more than once wandered from precise and contemporaneous facts: in order to pursue our work in historical order, we must extend the design of our researches, we must retrace the course of time, and, following our opponents in their superficial investigations, resume the analysis of legislative facts, or the traditional customs of a great many nations. But we know not where such a study, entered on conscientiously, may lead us; and the slightest examination of the documents produced in this system of inquiry by MM. Devay and Boudin, is sufficient to take from them the singularly decisive character which their authors wish them to assume. We may be allowed to make a few critical remarks on this subject.

We shall at once remark an error of judgment among our opponents. Thus M. Devay, like M. Trolong, makes much of the universal dislike of nations (and animals) for consanguineous marriages; confounding in one category the necessities of domestic morals which prohibit incest, and the metaphysical doctrines which interdict unions between cousins, our author cites the Hurons, the Iroquois,* and the Samoyedes, among the nations who have reproved and forbidden consanguineous marriages, and he relies on the universality of this opinion in order to prove its value. I do not insist on this confusion, common to my opponents, and which seems to consider *incest* and *marriage between cousins* as the same thing. But I note that M. Boudin is of quite another opinion; so far from considering the prohibition of consanguineous unions as an universal fact of *natural right*, he tries to establish "that among a great many nations of antiquity we find it *quite natural* that the father should marry his daughter, the son his mother, and the sister her brother";† and our colleague quotes, concerning this, a crowd of documents more or less authentic.

Now, in noticing this unfortunate confusion between incest of all

* The Iroquois, who in 1846 numbered 3,700, appear to have continually married among one another, according to Schoolcraft; and I cannot find any authority for their supposed dislike to consanguineous unions. Only one case of lunacy and one of idiocy are reported among them, and *no case* of blindness or of deaf-dumbness. (Tr.)

† Memoirs of the French Anthropological Society, vol. i, p. 510.

degrees and distant consanguinity, I leave to MM. Devay and Boudin the trouble of agreeing about this universal sentiment: I confine myself to proving that one ought not henceforth to receive any aid from an argument of this nature. The fact is that, according to the time and place, the laws which concern marriage, and in general all the acts of existence, are singularly diverse. To wish to appreciate all these laws at once, and to judge them, for example, according to our modern ideas, is to commit an error into which no clever man would be led, if prejudice did not impel him. History appears to us, if we have not the faculty of transporting ourselves mentally into the midst of past ages—history appears as a monstrosity, the most necessary laws as ridiculous or abominable, and there does not even remain to us the consolation of being able to admire one of the great men who have cast on the world the light of their genius.

I abstain, then, from mentioning this sort of violent accusation which M. Boudin's paper contains against the most admirable nations of antiquity. Supposing that the facts related by our colleague were well established as regards the Persians, the Egyptians, the Phœnicians, etc., we should not be authorised to conclude anything touching the morality of these nations. It is the same about the Greeks, the value of whose social system, thanks to which the integrity of race and duration of families was preserved at Athens as well as in Sparta, M. Boudin has not been able to appreciate. It is quite correct to say that at Athens one *could* marry one's sister; but we know in what horror the Greeks held these incests—a horror of which the tragedies of *OEdipus* and *Phædra* have left us a dramatic memorial.

I hope to present to the Society one day a special paper upon consanguinity among the Greeks; and I will not, therefore, just now correct the historical and philosophical errors made by M. Boudin. Nevertheless, whatever reserve I impose upon myself, I cannot be prevented from denouncing to the Society this system of disparagement—of which the middle ages have left us a tradition—into which our colleague has been drawn. “At Athens as at Sparta,” he says, “marriage was only looked upon in a sensual and animal view. Plato himself wishes that alliances between the best of both sexes should be more frequent, and between those who are inferior more rare. Lycurgus puts less ceremony into his opinion; he is astonished that ancient law-givers have not prescribed to man that which is practised among animals, ‘finding for their dogs the best bitches, and for their mares the best stallions’. This is how they thought and practised in much-vaunted Greece, which they quote even now as a model of the

highest civilisation." And, to strengthen his quotations, M. Boudin goes back to Plato, in his *State or Republic*, and to Plutarch, in his *Lycurgus*. The quotation from Plato is correct, if we can call a fragmentary quotation correct. But I do not see how we can thence infer that "marriage was only looked upon in a sensual and animal point of view." Who does not know what the "Republic" was? An ideal system, a pure utopia, to which Plato has consigned his ideas upon the government of nations. Now a legislator who wishes to constitute theoretically a fine race, endeavours to find the means for so doing; and this is what Plato points out in the same chapter. "How," says he to Glaucon, "are marriages most advantageous [to the State]?" It is for you to tell me. I see that you raise at your house a great many dogs for the chase, and many birds of prey. Do you take care about the breeding, and about pairing them? Among animals of good blood, are there not always some which are superior to the rest?" "Yes." "Do you wish to have all equal, or do you prefer to have the young ones superior to the rest?" "I prefer the latter."^{*}

This is what Plato *likes best*; and this is what makes M. Boudin consider that at Athens they only considered marriage "in an animal light"! Ah! if M. Boudin had read the whole of the *Republic*, he would soon have perceived that his opinion is not a Platonic one. Besides, if this is the animal point of view, the animal point of view has some good in it. And, if it led to the establishment of a race whose descendants would be the finest and healthiest of men, I should prefer even M. Boudin's "point of view", which ought to be taken without any reference to animality. Does M. Boudin, as a pure spiritualist, desire that children springing from persons of an inferior race should be more numerous than the offspring of the finest and healthiest? Does M. Boudin believe in inheritance?

Let us now come to Lycurgus. And first, let us remark that we only know Lycurgus through Plutarch, his historian; and that, instead of saying "Lycurgus puts less ceremony into his opinion", he ought to refer to Plutarch more or less of this ceremony of Lycurgus. But this reproach is quite a nominal one. A much more serious matter, is the fact that the quotation from Plutarch is incorrect; this may be proved by comparing the above-mentioned passage, quoted by M. Boudin, and the following paragraph, which I take from the *Life of Lycurgus*.† "So it seemed to him that there was something foolish

* Plato's Works, Aimé Martin's edition, vol. i, p. 97.

† Les vies des hommes illustres. Traduites par Jacques Aymot, vol. i, p. 92. Paris, 1604.

and vain in the laws of other nations respecting marriages; seeing that they put their best bitches and mares to their strongest and best dogs and stallions, by paying and beseeching those who owned the latter, and nevertheless keeping their women under lock and key, for fear they should conceive by others than those who were perhaps insane, unhealthy, or much too old." Thus Lycurgus is not *astonished* that the *ancient law-givers did not prescribe for man as they practised with their animals*. He blames badly assorted and unhealthy marriages; he shows that more is done for animals than for men; and, indeed, where can you find a legislator or a hygienist who looks with a favourable eye on alliances between the *insane*, the *unhealthy*, or the *aged*? and who does not prefer a marriage between young and healthy persons?

Never, perhaps, was marriage more honoured than it was at Athens or at Sparta, from whence comes to us almost all that Western civilisation contains that is either useful or beautiful, even to monogamic marriage. According to Plutarch, it was not possible to hear of an adultery at Sparta; and he must have lost the remembrance of Homeric antiquity, who can dare to speak of it in such scornful language. Allow me to quote to you two passages, one from Homer, the other from Xenophon, and you may well be surprised that any one can have spoken, on the subject of the Grecian race, in an "animal light". When Ulysses, after having been shipwrecked, besought the daughter of the Pheacians, Nausicaa, his eloquent prayer was terminated by a vow, and this vow gives us, as to the ideas the Greeks held concerning marriage, a notion which it would be difficult to reconcile with that given by M. Boudin. "May the gods fulfil thy desires, may they give thee a husband, children, and domestic happiness (*ομοφροσυνην*); for there is nothing in the whole world so touching as to see two persons united in love, who can govern their house with the same spirit."*

And also in after ages, Xenophon traced in his *Economic* a plan of conjugal life which no society in the world has yet equalled, and which ends with this excellent sentiment: "The most delightful of all joys will be, when you, having become more perfect than myself, shall find in me the most attentive of husbands; when, so far from fearing that age will rob you of my consideration, you will feel, on the contrary, that the more you show yourself a good mistress and manager, so much the more you will see the respect of all the household increase with your years. It is not in this world *beauty* which

* Homer, *Odyssey*, book vi, 180.

really acquires the right of being respected; it is, indeed, virtues alone."*

M. Boudin, in his historical researches, has mercy only on Christians. "The Christian law alone," he says, "has remedied the evil by forbidding consanguineous marriages up to the fourth degree; that is to say, up to the children of the cousins of first cousins." If the Christian law *has* remedied the evil, it is the fact, without doubt; but we do not then see the necessity of M. Boudin's essay. The truth is, that the Roman Church is too wise, too charitable, too conciliating to maintain those prohibitions of another age which had more signification and force in a time of strife and propagandism, but which, at the present day, have no value in Europe. During the first periods of the Christian Church, each converted family dedicated itself to the apostleship, and marriage with strangers was one of the forms of this apostleship. By this means a new Christian nucleus was formed; and the success of these commands was so evident, that they acquired the force of law in the Church. This is easy to prove. St. Augustin, who lived in the fourth century, has clearly stated in the fifteenth book of the *City of God* the causes of this prohibition. He refers to the commencement of creation by one couple; and he says that when men multiplied, marriages between brothers and sisters were prohibited "for a very just reason, that of charity. It was in the most precious interest of mankind," he adds, "to multiply between them the bonds of affection, and, so far from concentrating these affections on one person, to divide alliances so as to embrace the greatest possible number in the social chain." And further: "Who can doubt that it is no longer proper to prohibit marriage, even between cousins? And not only for the preceding reasons, for the sake of multiplying friendly relationship, but also because it is a noble instinct of modesty, which, in the presence of those whom relationship ought to make us respect, silences in us those feelings for which we see even conjugal chastity blush."

These reasons may be peremptory, and, if they were proffered just now, I should have no motive for refuting them; but what have pathology and anthropology to do with them?

In the thirteenth century, Thomas Aquinas, from whom no circumstances could escape which might strengthen canonical prescriptions, enters, on the subject of marriage between relations, into the most trifling details, and nevertheless he does not say a word about the dangers attributed at the present day to these unions. "All persons

* Xenophon's Works, i, p. 489, Charpentier's edition.

who were in the habit of living in the same house were forbidden to marry one another, because if they were able lawfully to have carnal relations together, this liberty would violently inflame their passions; but under the new law, which is the law of the Spirit and of love, several degrees of consanguinity were forbidden, because the worship of God spreads and multiplies by spiritual grace, and not by a carnal origin. Consequently, men must be more debarred from carnal things, so that, attaching themselves to spiritual matters, love may abound in them more and more. This is why, formerly, consanguineous marriage was prevented, except in the most distant degrees of relationship, so that mutual amity might be extended to a larger number by relationship and affinity. They extended it rightly to the seventh degree . . . ; but afterwards the church restrained it as far as the fourth, since it was useless and dangerous to forbid the degrees of consanguinity beyond it."

Will it be thought that the evangelical doctor would have neglected to speak of the diseases which would attack the issue of these unions, if the experience of time had proved to him any facts, or even any affirmative rumours? They quote, it is true, an opinion of Saint Gregory the Great (without giving its source), where it states that "descendants cannot increase from such marriages." (*Experimento didicimus ex tali conjugio sobolem non posse succrescere.*) I do not doubt the correctness of this quotation; but I ask what it means? When they say, *ex tali conjugio*, do they speak of a union between cousins, or of one between father and daughter? M. Boudin ought to have told us this. I am, then, authorised to state that the Roman church, which has been the first to forbid marriages between cousins, has only done so with certain moral ideas, and with this reservation, according to St. Thomas, "that which it is useful to permit at one time, it is advantageous to forbid at another." Now, the civil law has judged wisely, as well as the church itself, that it is in our days useful and necessary to allow that which, in the first days of Catholicism, was always refused. It is only, then, at a very recent time that a few writers have discovered the morbid consequences of marriages between cousins. Which is the first who spoke of it? Our inquiries on this point have not been very fruitful; and the quotations of our opponents are, in general, deprived of all indications of their source. A passage from Foderé has been quoted, which blames marriages between uncle and niece, aunt and nephew, and first cousins, "as tending to debase the race"; if this quotation be correct on this first point, Foderé, who wrote about 1815, would be one of the first

hygienists who described this "tendency"; but in the article, "Marriage," by this author, inserted in the large *Dictionary of Medical Science* (1809), there is not a word on the subject, although the question itself is treated with many details. Esquirol, Rillet, Devay, Chazarain, and Boudin, are then, in France, the chief supporters of the theory of danger in marriages between cousins, which must be considered, whether true or false, as an entirely new one.

RECAPITULATION AND CONCLUSION.

1. The question of marriages between blood relations ought to be limited, in anthropology, to the human race, and to refer exclusively to marriages between cousins, uncle and niece, nephew and aunt; since, as to the other degrees of consanguinity, marriage is morally and legally prohibited. This ought to be separated from the question of consanguineous pairing, to which it has only indirect reference.
2. Nobody has answered the objections which I felt it my duty to make in 1862, in a work entitled *Des Dangers attribués aux Mariages entre Consanguins*, although MM. Gourdon, Magne (d'Alfort), Boudin, and Chipault, have since published essays on the subject. These objections still preserve all their force and value.
3. The statistics concerning deaf-mutes, published by MM. Boudin, Brochard, and Chazarain, and those which are attributed, without any proof, to MM. Landes and Perrin, are incorrect in their elements; those of M. Piroux are badly stated. We possess no exact information about the number of consanguineous marriages in France. It is impossible, then, to compare the proportion of these marriages with the proportion of weakly children who are the issue of these marriages. As to the foreign statistics, they are either completely false or exaggerated.
4. As to the very small number of collected individual researches in France, which comprise about sixty or eighty marriages between blood relations, whose issue has been tainted by disease, most of them are wanting in sufficient information for us to be able to judge of the circumstances of the marriages. Some observations are well made, it is true; but we do not see *why* children of consanguineous unions should escape those infirmities which happen to all other children. For six deaf-mutes of the former class, who have been inmates of the Paris asylum, there are three hundred and fifteen who spring from unions between individuals who had no tie of relationship between them.
5. It has not been proved that consanguineous marriages are more

numerous among the aristocratic classes in France and England than among the mass of the population. But even were that proved, nothing will prove that these classes have degenerated; their political situation is altered; rival classes are raised to fortune and honour; but every argument drawn from a comparison between the ancient clans and the citizen class is absolutely valueless; were the aristocratic classes degenerated, a great many causes might be brought forward to account for the fact. As to the relative value of pure races and crossed races, it is a question still requiring study, but closely allied to that of consanguinity. The documents which have been produced up to the present time, seem favourable to the superiority of pure races. In every case it is certain that the French Jews show no special infirmity in their race, and that weakly Jews are not to be found in a larger proportion than weakly Christians. It even appears that they are subject to laws of mortality superior to those of the mixed population among which they live.

6. A number of facts, vastly superior to opposing facts, and in every case facts proving much more, has been collected by MM. Perier, Bourgeois, Lagneau, Voisin, Ferrier, and myself. These facts are either individual or collective. Now, this is to be remarked, that whilst morbid facts laid to the charge of consanguineous unions prove nothing against these unions, because they *may* be due to other causes than consanguinity; isolated or collected facts concerning consanguinity prove, at least, that the supposed dangers have not shown themselves; because if we show places where diseases and consanguineous marriages coexist, nothing will allow us to say that *consanguinity* is the cause. If, on the contrary, we quote places, such as Batz, where these marriages are *the rule*, and where there is no disease, one fact of this nature, properly substantiated for a long period, completely refutes the anti-consanguinity doctrine. Now, these places are very numerous in France and abroad, and I do not doubt but that before long I may be able to increase considerably the list of facts of this nature.

7. The pretended dangers resulting from consanguineous marriages had not been explicitly noticed before the commencement of this century; we find no mention of them among the authors of antiquity. When legislators or theologians have forbidden them, they have done so from excellent motives, referring either to social morals or to domestic order; their interdicts, except for relations in a direct line or of the first degree, have an essentially provisional character; it has, besides, always been allowable to remove these interdicts. This

custom is usual in these days; the civil law makes no mention of it in any country.

8. Consequently, in the present state of science and in a physiological point of view, we are not authorised to blame marriages between first cousins: *it is a question* to be discovered whether it may be useful to recommend them, now that the dispersion of families makes moral and domestic conditions so different from what they formerly were; for if, on the one hand, everything tends to make us believe that *healthy* consanguinity is favourable to the offspring, it *may be* that morbid consanguinity would be unfavourable to them.

APPENDIX.*

DOCTOR ANCELON communicated to the *Académie des Sciences*, on the 18th of January, some remarks on the value of statistics as applied to consanguineous marriages. There has been, no doubt, a great deal of discussion lately on this subject. To what purpose? Are we favoured, now-a-days, with some new social reason? Are these marriages now more frequent than in former days? That which astonishes us is not the number of evils imputed to consanguineous marriages, but the enormous quantity of these marriages which have been noticed since the subject has been mooted; and above all, the lengthened observations which, they say, have been made upon them. Is it not surprising, for example, that all of a sudden, in a small rural district of La Meurthe, fifty-four consanguineous marriages have been met with and examined, with the following consequences:—

1. Marriages which have been sterile	-	-	14
2. Marriages whose issue has died before the age of puberty	-	-	7
3. Marriages which have produced children afflicted with scrofula, tubercles, deaf-muteness, etc.	-	-	18
4. Marriages whose issue has required no particular observation	-	-	15
			—
			54

What must we infer from this? Assuredly these data would be very alarming if we could only look at them from one point of view, and neglect the multiplicity of causes of degeneracy introduced into society since the end of the last century. But the registrars of sta-

* Dr. Dally, the learned author of this memoir, has been good enough to forward me the following report of a paper on the same subject, read before the Academy on the 18th January. It is so valuable, that I have not hesitated to translate the whole of it. (Tr.)

tistics have, perhaps, hardly considered what would become of their statistical display if the question is reconsidered. Are they uneasy as to what they would discover in examining non-consanguineous marriages? While waiting until, if possible, a statement of consanguineous marriages, contracted anterior to 1800, be made, we are called upon to examine contemporaneous non-consanguineous marriages, of which we have here the results.

Dieuze, with a population of 3,700 souls, can count only four consanguineous marriages, the consequences of which we will examine farther on; as to the non-consanguineous marriages, they are analysed in the following manner:—

1. Sterile marriages	-	-	-	7.50 per cent.
2. Marriages whose issue is scrofulous, deaf and dumb, etc.	-	-	-	47.33 ,,
3. Marriages whose issue has died before the age of puberty	-	-	-	0.69 ,,
4. Marriages which have given rise to no particular observations	-	-	-	44.93 ,,

The balance here is not favourable to non-consanguineous marriages; and that nothing may be wanting in our manner of proof, let us examine our four consanguineous marriages. The first of these marriages, between first cousins, dating some thirty odd years ago, has remained sterile. The three others, which have also been between first cousins, came from the same stock. From the first consanguineous marriage there were born five children—three boys and two girls. The eldest of the boys married his first cousin, who has borne him two healthy children: the second, aged twenty-five, is still a bachelor; the third died of epilepsy at the age of twenty. As to the youngest daughter, married to her first cousin a little before her eldest sister, she has already three healthy children. Except the epileptic patient, whom we mentioned above, all the other members of this numerous consanguineous family have enjoyed the most flourishing health up to this time, with the exception of two, who have died of acute pneumonia.

After all this, and until we obtain the double series of statistics of which we have just given a specimen, we believe we have a right to conclude that we must search elsewhere for the causes of the degeneracy with which some people endeavour to charge consanguineous marriages.

PEYRERIUS, AND THEOLOGICAL CRITICISM.

"*Veritas laborat sœpe, extinguitur nunquam.*"

LIVY, Hist., xxii, 39, 19.

"Die Inquisition kommt nicht auf. Wir sind nicht gemacht, wie die Spanier, unser Gewissen tyrannisiren zu lassen." GÖTHE, Egmont, i, 1.

AFTER two centuries of neglect and oblivion, the name of Isaac de la Peyrère is once more received and honoured, as that of the first scholar who broke through the meshes of a groundless traditional prejudice, and proved that even in Scripture there are no decisive evidences of man's descent from a single pair; nay more, that there are distinct indications of non-Adamite races.

The theory of La Peyrère, derived partly from Genesis and partly from the Epistle to the Romans, was, that there had been two separate creations of man; one on the sixth day along with the beasts, at the mere fiat of God, and the other many thousand years afterwards. The first was the creation of the Gentiles. In the first creation, man and woman are created simultaneously, and no names are given them. In the second, Adam is created out of the dust, the breath of God is breathed into his nostrils, and Eve is subsequently created out of his rib. Peyrère saw how many difficulties would thus be obviated, though these were in his time far less numerous and far less formidable than they have become, in consequence of the progress of science.

His system was, however, *mainly* founded on Rom. v, 12-14, from which he deduced that there were *two* classes of men. One of these—viz., the Jews, were descended from Adam, who, at his creation, had received *a law*, the violation of which brought death among his race. The other class—viz., Gentiles, could only commit *natural* sins, because they had received *no law*; nevertheless, they too were subjected to the natural consequence of death—so that “*death reigned from Adam to Moses, even over them that had not sinned after the similitude of Adam's transgression.*”

Peyrère was two centuries before his time; and whether we accept or reject his special theories, it is impossible not to admire his acumen, his candour, and his courage. Like all people who are wiser, fairer, and more keen-sighted than their cotemporaries, he was of course persecuted and rendered as miserable as his theological adversaries, with their three favourite weapons—persecution, imprisonment, and

* See Latronne, Rev. des Deux Mondes, Paris, 1834, p. 602.

fire—had it in their power to make him. He had dared* to step out of the magic exegetical circle which theology had drawn around all the sciences, and his presumption was punished with prompt violence. Indeed, so severe were the measures of his opponents, that the second part of his book never appeared.

Isaac de la Peyrère* was born at Bordeaux in 1594, of a noble Protestant family, and he distinguished himself for bravery at the celebrated siege of Montauban, where he commanded a company. He then entered the service of the Prince de Condé, which he quitted in 1644, to accompany La Thuillerie, the French ambassador, to Denmark, where he collected the materials for his works on Iceland and Greenland. On his return, he attached himself to the young Prince de Condé, who sent him as his agent to Spain, and whom he afterwards followed in Flanders and Holland. There he got his now famous book—*Præadamitæ*—anonymously printed, in 1655. The authorship was, however, known; and his hypothesis, although it solves many difficulties of the Mosaic cosmogony, raised a violent tempest against him. The same year the Bishop of Namur censured the book; it received the honour of being burned by the hangman, by order of the Parliament of Paris; and the Vicar-General of the Archbishop of Malines ordered the author to be arrested. In February 1656, thirty armed men rushed into his room at Brussels, dragged him through the streets, and by consent of the Archduke Leopold, put him in the tower of Turenberg. This was sanctioned by the Prince de Condé, who had a warm regard for Peyrère, but, with his Jesuit confessor, hoped, by a judicious use of terror, to prevail on him “à se convertir.” The Prince, on his promise to abjure and retract his book, procured his release, and provided him with money to go to Rome, throw himself at the Pope’s feet, and embrace Catholicism. Like Galileo before him, he was forced to go through a form of recantation, and the Pope (Alex. VII) received him graciously. He rejoined Condé in the Low Countries, and became his librarian; but subsequently retired on a small pension to the oratory of Nôtre Dame des Vertus, where he died Jan. 30, 1676.

A friend† says of him, that “He was still infatuated with his *Præadamites*, and it is likely he died with that fantastical notion. He would have been very well pleased if he had known that there is a Rabbi who mentions Adam’s preceptor.”

* Some meagre materials for his biography may be gleaned from Bayle, and from *La France Protestante*, by M. M. Haag.

+ Continuation of the *Menagiana*, Dutch ed., p. 38, in Bayle, s. v. Pereira.

The fury of theological hatred raged against him with uncommon vigour, and the year after his book appeared (1656) it was answered in five or six refutations (?), whose flaming character may be judged of by their titles. One, that of Danhawerus, was called "*Præadamita utis, sive fabula primorun hominum ante Adamum conditorum explosa.*" Another, published by Ursinus at Frankfort, was entitled "*Novus Prometheus, Præadamitarum plastes, ad Caucasum relegatus et religatus.*" A third, by A. Hulsius, was "*Nonens Præadamiticum, sive confutatio vani et sociinisantis cuiusdam somniū, etc.*" Lugd. Bat. 1656. He says, "Perturbet te Dominus, quia perturbasti Israelem." Heidanus was even obliged to reply to the charge of having *published* the book, as a "detestanda calumnia," and an "effrons et immane mendacium, quāvis pœna dignissimum." The disgustingly energetic remarks of Petrus ab Andlo on this subject may be found in Bayle.

"Religious subjects," says Payne Knight, "being beyond the reach of sense or reason are always embraced or rejected with violence or heat. Men *think they know because they are sure they feel, and are firmly convinced because strongly agitated.*" The remark applies with full force to the subject before us, where cartloads of abuse were poured in to conceal and fill up the chasms of argument. Even so respectable and learned a writer as Heidegger is not ashamed to furnish fresh extracts to a spicilegium drawn from the disgraceful—I had well-nigh said the infamous—pages of theological controversy. Take this specimen of that well-known style! "Sed meritissimo deridiculo et odio habitus ille nuper *cum nocturnis fungis, tristī lunā natus, Præadamitarum patronus, qui cum animū* induxisset, etc.*" A few of the usual familiar imputations of fraud, dishonesty, infidelity, etc., follow, in the common fashion of such 'religious' reviewers (who mostly ignore the existence of the ninth commandment); and then, after the dogma has been denounced as 'musteum', 'impium', and 'absurdum', La Peyrère is finally transfixed with the epithet "fanaticus." "E pur si muove!" The name of Peyrère will be revered when that of Heidegger is reposing in venerable dust. A type of all these faults in their most concentrated form may be found in the tedious and irritating compilation of Dr. Smyth *On the Unity of the Human Races*. He says (p. 35), "when *infidelity* sought to erect its dominion on the ruins of Christianity (!), Voltaire, Rousseau, Peyrère (!), etc., introduced the theory of an original diversity, in order thereby to *overthrow the truth and inspiration of the Holy Scriptures.*" To say nothing of the preposterous chronological mistake, which shews that Dr. Smyth

* Heidegger, *Hist. Patriarc.*, Ex. iv, p. 148.

knew nothing whatever about La Peyrère, and had probably never read a line of his work, the sentence contains *a positive slander*, hardly worth noticing except for its amazing folly. For Peyrère was the most devout, the most earnest believer *in the inspiration of every word of Scripture*; and it is *from Scripture* that his doctrine is deduced. Peyrère believed in Preadamites* solely because he *considered* that the Bible recognised their existence. The scientific arguments were in his day unknown. To class him, either chronologically or intellectually, among the free-thinkers is an enormous error. Yet Dr. Smyth, who thus shews his complete unacquaintance with the subject, is introduced with a loud preliminary trumpet-flourish from English and Scotch divines!

It is by such base weapons of calumny and abuse that Polygenists have been met from the time of Peyerrius down to that of Vogt, from Hulsius and Heidegger down to Dr. Bachman and Dr. Smyth. We may well ask with M. de Quatrefages—a monogenist who is tolerant because he is scientific, and courteous because he is not ignorant: “*à quoi bon toutes ces colères? Les arrêts de l'inquisition n'ont ni arrêté la terre sur sa marche, ni fait tourner le soleil autour de notre globe.... Les violences de langage, les insinuations malveillantes, les railleries, ne changeront pas davantage les relations existantes entre les groupes humains.*” Such a style as that which we have been noticing is never really efficacious. It has served no other object than that of bringing religious controversy into profound contempt. What have those clergy and religious writers now to say for themselves who fulminated their forgotten and idle anathemas against the first discoverers of geology, and who, *more suo*, discussing that theory with colossal arrogance and unfathomable ignorance, “*thought, or sometimes pretended to think, that they were crushing a heresy, when they were denying without examination what might almost be called the lowest kind of revelation*, since the truths of nature, as Scripture teaches, bear witness to the perfections of the Creator.”† If such clerical dogmatizers *will* not learn wisdom, the rent which already exists between the teaching of the national Science and the national Church will, with the most injurious consequences, be irretrievably widened.‡

* I here judge Peyrère *by his own book*; not by the malicious remarks made about him, of which I am well aware. De Quatrefages takes the same view. Rev. des Deux Mondes, Dec. 1860.

† Gen. of Earth and Man, p. vi.

‡ That this scorn and contempt is fast becoming the natural tone of scientific men towards a large body of the clergy is well known; and whose fault is it? It speaks most loudly in the hasty and irreverent language of C. Vogt, which I will not translate (Vorlesungen, § 13). He says: “*Ein Adam . . . ein Noah . . . das*

Few scientific truths have ever been discovered—few discoveries have been made for the last five centuries, against which the combined forces of prejudice and ignorance have not marshalled their array of mistaken Biblical inferences. We leave it to others to write this sad, this humiliating, but instructive history. Here we will but follow Professor Vogt in alluding to two of the *most* modern instances to shew that the religious critics of to-day are no wiser than of old, and have gained nothing from the experience of past defeats.

1. Few ethnologists have done more for science than the calm-minded, the noble and earnest student, Dr. Morton, of Philadelphia. Belonging to the highest order of physicians, he devoted lifelong researches to American, and afterwards to *general* cranioscopy. His researches, pursued with continuous ardour, and directed by a peculiarly ingenious and original method, led him to the conviction that mankind had sprung from different origins, and could not possibly have descended from a single pair. Like a brave and honest man, he did not shrink from publishing his conclusions. This was a great stumblingblock to the Reverend Dr. Bachman, of Charleston, who thereupon wrote in a friendly way to Dr. Morton,* that he must enter the lists against this view, but hoped that the controversy would not weaken their previous friendship, since he regarded Dr. Morton as a benefactor of his country, and an ornament to science. Dr. Bachman then published a book, in which, although he displayed the grossest ignorance of his subject, ‘he mounted his high horse, treated the good Dr. Morton *de haut en bas* in an arrogant and offensive manner, and in that inflated declamatory style, which is too frequent in his profession.’ Morton replied in a calm, dignified, and even friendly manner,

waren Sätze, die als Vorbedingung jeder wissenschaftlichen Untersuchung sollten aufgezwungen werden, und ohne deren Annahme nach der Behauptung der Frommen die Welt in Gefahr stand und noth steht, ohne weiteres in den Abgrund der Hölle zu versinken.... So hat man hier die ganze Klerisei nebst sämtlichen gläubigen Schafen und stössigen Böcken auf dem Halse—und was das sagen will, das kann nur Derjenige wissen, der sich einmal mitten drin befinden hat.” [As many of our readers are unable to read German, we beg to append here a translation of the above paragraph for their satisfaction. “*One* Adam, *one* ancestor, *one* Noah, with three sons as second ancestors—these were the premises forced upon scientific inquiry, without the assumption of which the naturalist was unceremoniously sent to hell. Where in the former case we had only to do with philosophers, who in their academical gowns only talk to a select audience, here we had against us the whole clergy, with their faithful sheep and butting rams—a state of things which can only be appreciated from experience.” EDITOR.]

* If we here quote, without translating and without approving, the words of C. Vogt, whose account of this controversy is taken from Morton’s Biography, it is only to show the bitter spirit of hostility to clerical science (if we may be allowed the term) which animates physical inquirers. “Nach der Weise der Pfäfflein, die stets zu Aubegen die Katzenpfote machen, schreibt er zuerst freundlich an Dr. Morton.” (Vorlesungen, § 14.)

repeating, extending, and developing his scientific arguments. This was quite intolerable to the Reverend Dr. Bachman. 'He lost all self-control; accused Morton of belonging to a conspiracy which had for its express object the overthrow of a doctrine, which was bound in the closest connection with the faith and hope of the Christian both in time and in eternity; he declared that infidelity was the only possible logical consequence of such a view, an infidelity which, in the name of threatened society, must be energetically resisted.' How utterly false and calumnious such assertions are, will be obvious; but when the clergy use such language as this, we know, as Morton's biographer observes, that it is the trumpet of internecine war. This took place in 1850, and doubtless Dr. Morton would have felt the effect of religious persecution, had not his death in the following year ended the controversy. And what is the result? Morton's name is venerated throughout the civilised world; Dr. Bachman, who would otherwise have remained utterly unknown, will be curiously immortalised in the amber of Morton's fame.

2. Even scientific men are not beyond the reach of deeply rooted traditional prejudice. How else can we account for the long contempt and neglect of the now celebrated discoveries of M. Boucher de Perthes? The whole world, scientific and unscientific, had made up its mind that man had *not* existed on this earth more than six thousand years, and this was a reason for quietly ignoring, or explaining by the loosest theories, the occasional discovery of human remains among the bones of extinct animals. Cuvier had even denied the existence of fossil monkeys; but he had not been dead for five years when M. Lartet, in 1836, discovered fossil remains of the *Pliopithecus antiquus*; Dr. Lund found in Brazil, in 1837, a fossil simian of a now extinct species; and other geologists found similar remains in the tertiary strata in other parts of the world.* Since that period undoubtedly fossilised *human* remains have been discovered in such situations as to have won the reluctant consent of most scientific men to the fact of man's antiquity on the surface of the globe. But, had not prejudice stood in the way, the conclusion would have been arrived at long ago. *Before the end of the last century*, Mr. Frere had discovered flint-implements at Hoxne, in Sussex, "at a depth of about twelve feet in a stratified soil," under circumstances which led him to conclude that they had belonged to a manufactory of such implements

* For a good and comprehensive review of these discoveries, see *Anthropol. Rev.*, i, pp. 68-79; Boucher de Perthes, *De l'Homme Antediluvien et de ses Œuvres*.

at a period remoter than that of the present world. This discovery, like that of Schmerling, in 1833, fell still-born; nor was it until 1839 that M. Boucher de Perthes succeeded in gaining the slightest attention to his similar discovery of antediluvian implements. For years he battled in vain against prejudice, ignorance, and theological opposition. "Practical people," he says, "laughed, shrugged their shoulders, and even disdained to examine the circumstances for themselves; in one word—they were afraid. They dreaded, in short, to make themselves associates of a heresy. When, however, the facts were so obvious that any one could corroborate them, they were still less willing to believe them, and threw in my path an obstacle greater than remonstrance, than criticism, than satire, even than persecution—namely, the silence of contempt. They no longer disputed the facts; they no longer gave themselves the trouble to deny them; but simply buried them in oblivion. Then they invented explanations which were in truth far more surprising than the facts themselves; the stone hatchets were the result of fire, a volcano had flung them out in a fluid condition, they had fallen into water,* and had assumed their present shape in consequence of the sudden cooling, since some of them resemble Prince Rupert's drops! Others called Cold to their assistance; pebbles might have been split by frost, and shaped into knives and hatchets! or they were the mere forgeries of the workmen; or they might have sunk into the sand by their own gravity!† All these objections troubled me very little; what irritated me far more than criticism was the obstinate refusal to examine the facts, and the exclamation impossible! before any one had given himself the trouble to see whether it was the case or no." Elsewhere, M. Boucher complains that "being a purely geological question, it became the subject of religious controversy." Some people attacked his religion; the rest took refuge in that favourite argument of bigotry, the charge of presumption. 'Do you, a single obscure person, venture to put your opinion against that which all other men have adopted?' Here, again, we ask what was the result of the controversy? Truth and science triumphed, and nearly all geologists, all archæologists, all, except a few theologians and obstinate persons—who consider a man lost for time and for eternity, if any belief of his militates against

* This was the theory of Mr. Edwards of Birmingham.

† M. Boucher has not mentioned the belief of A. Wagner that the stone hatchets are a mere *lusus naturæ*! This was the theory adopted by the theological opponents of geology with respect to fossil remains; but it is amazing to find it cropping up again in scientific work of the eighteenth century.

any idol or prejudice of theirs—have accepted, as a fact scientifically proved, the Antiquity of Man.

It is ever thus; the true thought of the solitary thinker in his closet is stronger than priests and princes; is omnipotent even against the banded conspiracies of the whole world's prejudice and interest. After twenty-five years of devotion to study, during which he was “for a long time railed at, or what is worse, treated with contempt, M. Boucher de Perthes had to struggle against universal prejudices, but by his perseverance and courage received first some tardy support, until at length this depressed truth broke forth in science.”*

PHILALETHES.

MISCEGENATION.†

DURING the last two months there have come reports to Europe of the remarkable form of insanity which is just now affecting the people of Federal America. We should not have thought it worth while to take any notice of the publication of the pamphlet under review, if it did not give us some insight into the extraordinary mental aberration now going on in Yankeedom. It is useless, however, longer to close our eyes to the phenomenon now appearing in the New World. Before we saw this pamphlet, we expected that it was merely a hoax, which some political wag had concocted for the benefit of his party. But an examination of the works dispels that illusion, and shows that the author attempts to found his theory on scientific facts!

There is, indeed, just enough of the current scientific opinion of the day, and also enough of literary merit, to enable readers of this work to get very much confused as to the real nature of the opinions and theory therein propounded. The anonymous author starts with some general assertions, and if these be admitted, the theory is not so utterly absurd as it otherwise appears. Monogenists will, indeed, be astonished at the use made of their doctrine; but it is from the

* See Vogt, *Vorlesungen über des Menschen*, § 18. [A translation of this work is announced to be in the press, and will soon be published as one of the series of works brought out by the Anthropological Society. EDITOR.] *Anthropological Rev.*, i, 80; Dr. Knox, *ib.*, ii, 261.

† *Miscegenation, or the Theory of the Blending of Races, applied to the American White Man and Negro.* Trübner and Co., 1864.

opinions they have advanced, that the author deduces his theory. Many subjects are touched upon in this pamphlet; but we shall merely have space to examine into the truth of a few of the general propositions on which this theory is based. The manner in which the conclusions of science are misrepresented, and in which gratuitous assertions are made, calls for an early exposure.

In the preface we read, "Science has demonstrated that the inter-marriage of divers races is indispensable to a progressive humanity." This is totally false, and such an hypothesis as the superiority of mixed races rests on no scientific data, and is contradicted by many well-known facts. The public are warned against reading the work by the author, if they desire "what is vulgarly known as amalgamation." It is because the word "amalgamation" is justly so dreaded, that the author coins another word. "Miscegenation" will not find a place in future scientific literature, but it will be most useful as indicating the state of knowledge respecting Anthropology in America in the year 1864.

The author is more modest than some of his countrymen; for he says, "He appeals from the *imperfect* American of to-day, to a more perfect race that is yet to appear on this continent." We had generally supposed that the Yankee was the highest possible development of humanity—at least, in his own opinion.

The first chapter opens with these words: "The teachings of physiology, as well as the inspirations of Christianity, settle the question, that all the tribes which inhabit the earth were originally derived from one type. Whether or not the story of Adam and Eve is accepted by all as absolutely true, the fact which is represented has been demonstrated by history, and by the latest discoveries bearing on the origin of the human family."

This extract is the key-note of the whole book. The author is not content in appealing to science, but invokes revelation to help him. It is quite out of our province to follow the writer in his arguments as to whether the "inspirations of Christianity settle the question;" but we protest against the assertion, that physiology lends its support to such a proposition. As to the unity of man's origin being demonstrated by history, such a statement is hopelessly absurd—such a question not coming at all within the reach of history to solve. And as to the "latest discoveries," we must profess ourselves entirely ignorant of any such discovery which lends a shadow of evidence to such an assumption.

The author declares he has examined all recent "physiological"

works, and he has found "that the most profound investigation has proved conclusively not merely the unity of the race, but the equality of the black with the white under the same advantages of education and condition." If this were true, it would indeed show what a sad state the science of man must be in, and there is just enough semblance of truth in the statement to make us regret that so little has yet been done to diffuse the conclusions to which science has arrived—or, at least, to which it inclines.

The cool manner in which the author makes assertions is to be commended to those who formulate their views from the depths of their own consciousness, and not from scientific data. For instance, he writes: "The inhabitant of a northern clime is always white; of an extreme southern clime always black." We can forgive men in England making such a statement, but for an American, who surely must know that the colour of the American Indians is in no way influenced by climate, such a statement reads like wilful misrepresentation.

The author affirms that Dr. Draper has asserted, that "the slight peculiarities of structure which distinguish the white from the black," are due to the action of the liver! The position of the foramen magnum is asserted to be the same as that of the European—the author entirely ignoring the fact, that Prichard has long since been shown to be entirely in error on this point.

The author quotes largely from Professor Draper; and the following is given as an extract from his writings, and we have answered a few of the questions he has asked:—

"Are not all of us liable to the same diseases? [No.] Have not all a tendency to exist the same length of time? Is it the temperature of our body, the beat of our pulse, the respiration that we observe—are they not everywhere alike? [No.] Or, turning to the manifestations of the mind, is there not among all the tribes of our race a belief in the existence and goodness of God? [certainly not] in unseen agents intermediate between Him and ourselves? and in a future life? [No.] Do we not all put a reliance in the efficacy of prayers, and all, in our youth, have a dread of ghosts? [No.] How many of us, in all parts of the world, attach a value to pilgrimages, sacrificial offerings, fastings, and unlucky days, and in our worldly proceedings are guided by codes of law and ideas of the nature of property! Have we not all the same fears, the same delights, the same aversions [no], and do we not resort to the use of fire, domestic animals, and weapons? Do we not all expect that the differences which surround us here will be balanced hereafter, and that there are rewards and punishments? [Certainly not.] Is there not a common interpretation of all the varied forms of funeral ceremonies? [no]—a common sentiment of the sacredness of the tomb? [No.] Have we not

always, and do we not everywhere, set apart a sacerdotal order who may mediate for us?" [No.]

The author says that only a copper-coloured race can exist permanently in America :—

"The white people of America are dying for want of flesh and blood. They have bone and sinew, but they are dry and shriveled for lack of the healthy juices of life. The author has often sadly marked the contrast to be observed in social or intellectual gatherings of the negro and the white American. In the latter are seen unmistakably, the indications of physical decay. The cheeks are shrunken, the lips are thin and bloodless, the under jaw narrow and retreating, the teeth decayed and painful, the nose sharp and cold, the eyes small and watery, the complexion of a blue and yellow hue, the head and shoulders bent forward, the hair dry and straggling upon the men, the waists of the women thin and pinched, telling of sterility and consumption, the general appearance gaunt and cadaverous from head to foot. You will see bald heads upon young men. You will see eye-glasses and spectacles, false teeth, artificial colour in the face, artificial plumpness to the form. The intercourse will be formal, ascetic, unemotional. You will see these characteristics so universal that they become rather the rule than the exception. Where the cheeks on one grown person will be rounded and tinted with the healthy blood, ten persons will have them pale and hollow. Turn now to an assemblage of negroes. Every cheek is plump; the teeth are whiter than ivory; there are no bald heads, the eyes are large and bright, the head and shoulders are always up and back, every face wears a smile, every form is stalwart. The white man is going to seed; the black man is adding vigour and freshness to the trunk. The white child is born with full cheeks, but as he approaches manhood they fall away and are lank and thin. Nature did not intend that men's cheeks should be hollow. The dentists' signs in every locality only tell feebly of the sickness and racking pain that accompanies this weak and diseased condition of the jaws. Our professional men show more than any the lack of healthful association with their opposites of the other sex. They become thin, and gaunt, and old, when they should be strong and vigorous. They are told they need exercise; they take long walks in the morning air, and come back more cold and shriveled than ever. They need contact with healthy, loving, warm-blooded natures to fill up the lean interstices of their anatomy."

Certainly this work gives us some new ideas, for we have been taught that the dark races have originated nothing, but this author says, "The white race has originated nothing"! The cause of the recent disturbances in New York, we suppose, was jealousy of the Irishman to the Negro, for we here read: "The white Irishwoman loves the black man, and in the old country it has been stated, that

the Negro is sure of the handsomest amongst the poor white females"!

Professor Huxley has recently declared that the "slave-holding interest" indulges in far greater absurdities than the abolitionists; but we confess we have never read any statement respecting the physical characters of the races of man which for absurdity equals the following:—

"The fusion, whenever it takes place, will be of infinite service to the Irish. They are a more brutal race and lower in civilisation than the negro. The latter is mild, spiritual, fond of melody and song, warm in his attachments, fervid in his passions, but inoffensive and kind, and only apparently brutal when his warmest emotions are brought into play in his love for the white woman. The Irish are coarse-grained, revengeful, unintellectual, with very few of the finer instincts of humanity. Of course we speak of the labouring Irish as they appear in this country. The Milesian is a child of the sun. He was originally of a coloured race, and has all the fervid emotional power which belongs to a people born in or near the tropics. His long habitation north, however, and the ignorance in which he has been kept by misgovernment, have sunk the Irishman below the level of the most degraded negro. Take an equal number of negroes and Irish from among the lowest communities of the city of New York, and the former will be found far superior to the latter in cleanliness, education, moral feelings, beauty of form and feature, and natural sense. One of the evidences of degeneracy which have been pointed out in certain of the negro races has been the prognathous skull, the projecting mouth, the flat and open nostril. Yet this is a characteristic as true of certain portions of the people of Ireland as of the Guinea African. The inhabitants of Sligo and Mayo, portions of Ireland under peculiarly bad government, have developed these precise types of features. The people have become thin-legged, pot-bellied, with mouth projected, head sloped, nostril distended; in short, they exhibit all the characteristics by which we have marked the lowest type of the negro. The blending of the Irish in this country with the negro will be a positive gain to the former. With education and an intermingling with the superior black, the Irish may be lifted up to something like the dignity of their ancestors, the Milesians. The poets who sang of the ancient Irish, of the wisdom of their rulers, of their bards and warriors, forgot, perhaps, that this noble old race was of a very dark complexion, and native of the far south. The red hair and beard so common in Ireland is a sure indication of the southern origin of its people. When a very dark people move to a northern climate the physiological change effected by the temperature is to convert the black into red hair."

A chapter, entitled, "Heart-Histories of the White Daughters of the South," is too indecent for us to quote from; we believe that only a Mulatto or a Mulatress could have strung together such licen-

tious absurdities. We think we have said enough to show the quality of this work. It is painful to read, and more painful to reflect, on the injury it may do to a people who are influenced by its teachings.

That this question has also its comical aspect, may be seen in the subjoined extract, which we beg our readers to compare with Mr. Blake's edition of Broca's *Human Hybirdity*, p. 28, and reconcile as best they can :—

“ MISCEGENATION.—The *New Hampshire Patriot* gives facts to show that the female abolitionists who went as teachers of the Negroes at Port Royal, have been very successful in at least one branch of juvenile development. It says : ‘Private advices from Port Royal say that many of the female abolitionists who went to Port Royal to teach the little niggers how to read and pray, have been obliged, within the past few months, to abandon their black charges and open nurseries on their own private account. An officer informed us recently that no less than sixty-four spinsters had contributed to the population in and about the neighbourhood of Port Royal harbour. The climate seems to favour population even more than the production of Sea Island cotton by paid Negro labour. The information furnished us by the officer concerning the sixty-four little Mulattoes has been confirmed by the testimony of the Rev. Liberty Billings, Lieutenant-Colonel of the First South Carolina regiment, who is here in consequence of ill health. He says it is a sad truth.’ ”

ANTHROPOLOGY IN ITS CONNECTION WITH CHEMISTRY.*

To Dr. William Herapath belongs the honour of suggesting to the public mind a difficulty in connection with the Hebrew account of man's origin, which had, we believe, not been noticed before. We can hardly realise the fact, that it was necessary to address a body of educated medical men in such terms, and we are still more astonished to think that such language could have brought on the speaker marks of disapprobation. We shall leave chemists and medical men to settle this matter as best they can, we simply chronicle the following objectionable passage delivered to the medical faculty assembled in congress at Bristol in the year 1863.

“ From our days of boyhood it has been most assiduously taught

* Address on Chemistry in its relations to Medicine and its Collateral Sciences. By W. Bird Herapath, M.D. Bristol, 1863.

us that 'man was made out of the dust of the earth,' and 'as of dust thou art so to dust thou shalt return.' Now this opinion, if literally true, would necessitate the existence of alumina as one of the elements of organised structure, for no soil or earthy material capable of being employed by agriculturists can be found without alumina existing largely in its constitution, and clay cannot be found without it; therefore chemistry as loudly protests against accepting the Mosaic record in a *strictly literal* sense as geology, geography, astronomy, or any other of the physical sciences so absurdly dogmatized upon weekly from the pulpits, by those who have neglected the study of true science, but still profess to teach us that which is beyond all knowledge.

"That man is not made out of the dust of the earth, but from organised material or vegetable matter properly digested and assimilated by other organised beings, chemical science everywhere proves to us incontestably, and the existence of no element in the composition of the human body, which does not also occur in the bodies of the mammalia and all the other classes into which the animal kingdom has been divided by natural historians, tends to prove by the chemical method the truth of that proposition which has been advanced by comparative anatomy:—'That man is one with the beasts of the field,' whilst physiological psychology demonstrates that if man have a reasoning principle independent of its material envelope, and so far spiritual in its character as to be 'immaterial' in its principle, so 'the beasts which perish' must have mental powers of perception, sensation, thought, feelings, and emotions dependent upon some immaterial principle in like manner, or that we are in fact compelled to admit that thought is one of the many properties with which matter has been invested by the Beneficent Creator and Architect of the Universe.

"This spiritual principle of the whole animal kingdom has hitherto eluded the skill of the chemist as it has equally baffled the research of the anatomist; but in the same way that chemical logic will enable the chemist to demonstrate satisfactorily the existence of a material elementary principle, even before its isolation and production in the test-tube, so analogical reasoning proves the possibility and probability of such a spiritual principle as one of Nature's powers; for the same reason that chemistry has failed to detect and demonstrate the existence of this spiritual principle, whose proper domains are the realms of thought and the sphere of perception, so it has hitherto been unable to render any assistance to the elucidation of the diseases and derangements of the mental powers, dependent as they are upon the combined agency of spirit and matter. The true corporeal structure, so intimately connected with the phenomena of mind, may be, and has been, subjected to numerous investigations, by both the anatomist and the chemist, and even further submitted to microscopical analysis and investigation, without as yet giving any satisfactory evidences of change during many of those diseased conditions, which, also! too often afflict humanity."

SAVAGE AFRICA.*

SOME three years ago, when that amiable traveller, M. Du Chaillu, was astonishing the London public with his wonderful adventures amongst the gorillas and the Fans of Equatorial Africa, a "young man about town" formed the Englishman-like resolution of visiting these scenes, and endeavour to reconcile the somewhat conflicting statements given by the "gorilla hunter." Before us, we have a goodly volume of some 587 pages as the result of this resolution. We, however, search in vain for any explanation of M. Du Chaillu's contradictions, as the subject is never once mentioned in the body of the work. In a note, however, we are told that the author is able to explain all M. Du Chaillu's contradictions, if he ever should be called on to do so. So far we find no fault, and we are glad that Mr. Reade has said nothing to wound the feelings of that brave traveller and explorer who was made by his injudicious friends, for their own glory, the lion of the season for 1861.

It is necessary to bear in mind Mr. Reade's object in visiting Africa. The fact is that his mission was to discover the truth; and, therefore, his testimony on any subject would consequently probably be of some considerable value. And here we think the author has made a name for himself, as one who has fearlessly spoken the truth respecting what he saw and heard. Nor is the work merely a *reprint* of the journal of a self-sufficient traveller: but Mr. Reade has exhibited no little literary skill in the composition of the volume before us.

We think, however, that the book would be greatly improved by the reduction of the number of chapters, and also of the sections of his subject. The work is divided into no less than thirty-eight chapters; at least one half too many. The author shows himself acquainted with what has been written upon the subject, and, indeed, occasionally we could wish he had not been so well acquainted with it; for we seem to recognise in more than one place anecdotes of former travellers. These, no doubt, add to the interest of the work; but they destroy the value of the volume as a book of original observation.

* *Savage Africa: being the Narrative of a Tour in Equatorial, South-Western, and North-Western Africa; with notes on the Habits of the Gorilla; on the Existence of Unicorns and Tailed Men; on the Slave Trade; on the Origin, Character, and Capabilities of the Negro, and on the Future Civilisation of Western Africa.* By W. Winwood Reade, F.A.S.L., etc. With Illustrations and a Map. Second Edition. London: Smith, Elder, and Co., 1864.

It is quite out of our power to give an analysis of the contents of this work, and we must refer our readers to its pages for many interesting descriptions of African life.

The following extract describes Sierra Leone civilisation :—

“ The Negro imitates the white man as the ape imitates the Negro. The result in both cases is a caricature. The rich Negro of Sierra Leone is dressed as if he had taken a bath in a rainbow ; and his manners are so strained and pompous that a close imitation of them, even in the broadest farce, would be looked upon as a rough over-acting of character. But, most comical of all, is the manner in which negroes identify themselves with the parent country. To hear them talk, you would think that their ancestors had come over with William the Conqueror ; and that they even take to themselves all the glories of our history, the following anecdote will prove. The French consular agent having some time ago overstepped the limits of the land, a warrant was taken out against him. Holding the sable powers in great contempt, he armed himself with a pair of pistols, and defied them with the air of a brigand at the Victoria. ‘ Ah ! ’ cried the two constables rapidly retreating, ‘ we no care for you, one dam Frenchman. I tink you forget *we win Waterloo—eh?* ’

“ It is one of the chief peculiarities of the Sierra Leone Negro that he hates, with an intense and bitter hatred, this white man to whom he owes everything. This Christian feeling is propagated even by the native preachers, for one is said to have explained our origin from the pulpit in the following manner : ‘ My breddren, you see white man bad too much, ugly too much, no good. You want sabby how man like dat come to lib in the world. Well, I tell you. Adam and Eve, dey coloured people, very hansum ; lib in one beautiful garden. Dere dey hab all things dat be good. Plantains, yams, sweet potatoes, foo-foo *palm-wine*—he-igh, too much ! Den dey hab two childrum, Cain and Abel. Cain no like Abel’s palaver ; one day he kill’m. Den God angry, and he say—*Cain ! Cain* go hide himself ; he tink him berry claber. Heigh-heigh ! God say again—*Cain, you tink I no see you, you bush-nigger—eh ?* Den Cain come out, and he say, ‘ Yes, massa, I lib here—what de matter, massa ? ’ Den God say in one big voice like de tunder in de sky, ‘ *Where’m broder Abel ?* ’ Den Cain turn white all ober with fear—dat de first white man, breddren.’ ”

This theory of the origin of the white and black man is about on a par with the teaching of Captain Speke to the benighted king of Uganda. When educated Englishmen can talk such nonsense, we must not be too severe on the African.

The most unsatisfactory chapter in the book is that on “Liberia; its future and its resources :” a subject which is dismissed in less than three pages. We much regret this, as at this time a true description of Liberia from the pen of an unbiased traveller would be of especial value. Mr. Reade says :—



THE GORILLA DANCE.

"In spite of all drawbacks, the indolence of many emigrants, and the itch for preaching which seems to torment Ethiopic humanity, as it does most low orders of men, one must allow that the progressive effort is a creditable one. We must not expect wonders, and we must reject the poetical balderdash sometimes served up in this Land of the Free, where so many are only free to starve. But the fact is, that any country, even fever-stricken Liberia, is better for the free man of colour than America."

Chapter XVIII contains an admirable description of the gorilla dance, together with an apparently truthfully executed drawing of the same, which has so many points of interest to the anthropologist that we are glad to be able to insert it.

Chapter XXI contains an admirable account of the "Equatorial Savage," from which we make the following extract:—

"These children are absurdly precocious. Africa is a great hot-house, in which they are forced by the sun, and in which they perish prematurely. They can always talk when they are twelve months old. At four or five years I have seen them listening with twinkling eyes to the immoral songs of their seniors, and at eight or nine, nature permits them to put in practice those theories, which, incredible as it may seem, they have actually studied beforehand.

"So much for savage chastity; and I fear that I can say as little for parental affection. The father wishes to have a child, partly because nature has planted within his breast an instinct for reproduction, second only in power to that of self-preservation; and partly because that child, if a son, will help him to hunt or fish, or paddle his canoe, and will give him food when he is old: if a daughter, he will sell her to a suitor, and will receive sufficient in return to make him a man of status in his tribe. He kills the sickly or crippled child, because it will cost him one more mouth to feed without affording him anything in return.

"Such is the child of nature! Such the noble savage! Such the primitive condition of man, which philosophers, who had never studied it, have dared to hold up to our example!

"What is it, then, that they would have us imitate? Must we instruct our children in vice at the tenderest possible age, and sell them for marriage as soon as they arrive at puberty? Must we make our wives mothers when they are scarcely girls; treat them as slaves when they are women, and kill them when they are old? Must we place no restraint upon our passions; but abandon our youth to dissipation and debauchery, that we may have grey hairs on young heads, and all the foul diseases which spring from the diet and habits of a brute? For so does man in an uncivilised condition. The savage lives a life without a future or a past, without hope or regret, and dies the death of a coward and a dog, for whom the grave brings darkness, and nothing more."

The above extracts will give some little idea of the character of the

work. The two last chapters treat specially of the Negro: here the author has made copious use of recent anatomical and physiological researches on this subject. There is such a manifest desire to arrive at the truth, that we should desire not to be too critical on this part of the work, although we could have wished that the author had given his own opinions apart from debated scientific questions.

This volume is one rather of general interest than of scientific importance. It has, however, the somewhat rare merit of honestly describing what the author saw, and not what he would have liked to have seen. This coast journey is the first expedition undertaken by Mr. Reade, but we hope again to meet him on his travels, and on a future occasion to be favoured with more really scientific details concerning the races of man that may come under his observation.

ETHNOLOGY AND PHRENOLOGY AS AN AID TO THE BIOGRAPHER.

By J. W. JACKSON, Esq., F.A.S.L.

SHAKSPEARE.

It would seem from the established practice in all literary circles, that to write the life of a man, is a comparatively trifling affair, for which any person of scholarly education acquainted with the facts, is abundantly qualified. Perhaps, however, there is a mistake in this, and if so, the error is not the less grave, either from its antiquity or its prevalence. As true history is not a mere chronicle of events, so true biography is not a mere narration of incidents. The events and incidents are no doubt goodly material, with which a competent architect will rear a magnificent temple of symmetrical proportions and exquisite beauty; but what will a dunce do with them? In truth, biography is one of the fine arts, and demands genius of no common order for its successful achievement. Is it not, indeed, a species of soul-painting, a depicting of the inner man; a pourtraying of the subjective as projected upon the canvas of the objective. If not this, then is it only the fragment of a chronicle; and so, at best, but of co-ordinate rank and value. In very truth, every real biography is an evangel; a grand revelation of the *spiritual* beaming through the *actual*, of the eternal pervading the temporal, of the celestial becoming manifest in the earthly, and so demands for its successful effectuation,

not only sight, but insight; not simply learning and talent, even though of the highest, but rather the devout illumination of a worshipful disciple, aglow with the light and glory of the sun-spirit he is so religiously beholding. Thus furnished, your Galilean fisherman surpasses Plutarch, while, *longo intervallo*, poor Boozzy accomplishes the one successful feat of his otherwise miserable existence. But of all this, what does your ordinary biographer know or *feel*? absolutely nothing. It is his business to narrate a career, perhaps for the market, and so the booksellers are satisfied; he certainly is not discomfited. Yet, if a biography is to last,—if it is to become one of the polished cornerstones of literature, its utterances on departed worth and power must descend to deeper springs, and have regard to wider issues, than any such printed gossip has at all contemplated.

No man stands alone. The greatest is not isolated from his fellows or independent of the influences by which he is surrounded. Hence to thoroughly comprehend an individual you must understand the age in which he lived, for this furnishes the mould whence the elements of his being will largely take the form and fashion which they bear. Yet when you have thoroughly mastered all this, and in addition accurately determined the social and educational influences to which he was especially subjected, you have yet only acquired half the data necessary to the solution of your problem. You have at best only estimated the forces; their subject matter is still beyond you. The man as constituted by Nature is still unknown. And for this, if, as is usual, you are only of the literary class, you will be dependent upon his manifestations in thought and action. Very important indications no doubt, and when combined with other elements, of quite incalculable value in arriving at an accurate estimate of character. But you will observe they are only effects, and hence afford information simply as to the causes which have produced them. They, in short, enlighten you as to that part of your hero's character which has become patent, but are hopelessly silent on that, which from want of sufficient opportunity or adequate investigation, has remained latent. Perhaps even this is too favourable an estimate of a merely literary biography; for if the latent powers of its subject be unknown, in all probability the patent will be misapprehended, for an individual character is a whole, and cannot be estimated aright, solely from its fragmentary portions. Least of all, can this be accomplished by men ignorant of the elementary forces which constitute a human mind, and thus utterly unaccustomed to estimate the vigorous interaction maintained between passion, affection, principle, and

faculty in the hidden recesses of consciousness? The result of all this is, that literary biographies are often partial and imperfect, superficial and unsatisfactory, their stand-point being wholly from without, while a true revelation of life demands that its subject should also occasionally be contemplated from within. But for this it will be said, we have a remedy in that now rather fashionable department of literature known as autobiography. And could we obtain a genuine self-revelation this would no doubt be in part true. Not that all men are capable of revealing even themselves. But how many genuine—that is, honest and thoroughly outspoken autobiographies have we? Are not the greater part of these very amusing productions indeed gossiping recollections about *others*, rather than deep, earnest, soul-searching developments of the author's own inner being. Moreover, an autobiography, however excellent, furnishes but one side of the picture, its aspect as contemplated from within, disfigured and discoloured by the prejudice and self-love, of which even the best and most amiable are more or less the victims. And hence to complete the portrait, it is still necessary that it should be contemplated from without, and that too by an eye, that brings with it the power to see. Biography in short, like history, is a branch of science as well as literature, and demands something more than mere classical attainments for its composition.

To thoroughly understand an individual, you should know somewhat of his ethnic roots and relationships. As we have said, he does not stand alone in the world. He came here in virtue of certain predecessors, from whom he will infallibly have inherited many specialities and propclivities that ought not to be ignored. In the account of any animal, its species is esteemed of paramount importance; and justly so, for this at once decides many questions as to its habits and propensities, that might otherwise have remained matter of doubt. But are there not also well marked diversities in the type of man, that have existed apparently from time immemorial, handed down from generation to generation as an organic inheritance, like the special form of various animals, each of these carrying with it certain mental endowments and deficiencies common to the race. As between the strongly contrasted divisions, where the lines of organic demarcation are broad and palpable, this is generally admitted, so that in any notice of a Negro or Mongol, some allusion to his peculiar race could scarcely be omitted, although this is generally so managed as to be utterly devoid of any scientific value; works of this character being, as we have already remarked, usually written by men altogether ignorant of

ethnic data and their application. Nevertheless, even to such there is a glimmer of light afforded, when the lines of separation are prominent and unmistakable, as in contrasted colour or very observable form, but in the minor divisions and subdivisions, the facts of racial descent and propinquity are systematically ignored. Whether a man of eminence be predominantly of Celtic, Classic, Teutonic or Sclavonic type, is usually esteemed a matter of such insignificance that it is never alluded to, save indirectly, when we are informed as a *social* and *educational* fact, of his nationality, moral *influences* being regarded as of unspeakable importance, while the very *elements* on which they have to act are commonly treated with ignorant indifference. Now while the former are not to be neglected, constituting as they do one-half of the problem, that is the *forces* by which given results have been worked out, neither should we despise the latter, as they are the subject matter on which these forces have had to operate.

Thus, for example, in any life of Raphael, his especially Italic type, as seen in the portrait by himself, should never be overlooked; while in any attempted parallel between him and his great rival Michael Angelo, the marked contrast in their genius and disposition is readily explained by the predominantly Gothic blood of the latter. Again, how superficial would be any life of Voltaire, that did not take as its keynote the fact of his Celtic descent and character. How impotently do all ordinary biographies of that model Frenchman stop short at secondary causes. Nay, to understand him thoroughly, he must not only be regarded as generically a Celt, but also of the Gallic variety, and so very different from the Spanish or British divisions of the same ancient and excitable race. Thus only can we comprehend the man, and thus only can we understand his mission, as undermining a faith by sarcasm, and sapping a throne by wit, he heralded the greatest revolution on record by arts which with us are confined to the drawing-room and the stage, and even there are limited in their range and subordinate in their rank. It was a Gallic prophet speaking to his people in their own brilliant dialect, and appealing to them by motives and through sympathies, that would have proved all but inoperative upon an alien race. As a contrast to the gay and sprightly Frenchman, behold the sturdy and stalwart champion of the Reformation, Martin Luther. Predominantly and essentially Teutonic, with perhaps just a sufficiency of the Sclavonic element to give him increased basilar power, the honest, earnest, and pious German, to the best of his ability, built up one form of religion while he pulled down another. No vain scoffer was the rude monk of Erfurt, but a stern

and fierce Elijah coming forth out of the wilderness to cast down the gauge of battle before the priests of Baal. In all solemnity, and with throes of soul not to be uttered, did he enter upon his terrible conflict with the powers of darkness, going forth to the encounter not in gaunt infidelity, but with prayerful wrestlings and in living faith. And so he founded a church, still calling itself Lutheran. But what has the Gaul founded? Perhaps it were more pertinent to ask, what he has *unfounded*, for if we mistake not, dilapidation and not edification was his mission. Brave hearted and defiant German, supple and subtle Frenchman, appropriate incarnations of your respective types, how can either of you be understood except in the light of race?

It were easy to extend these examples, for many great and well marked periods in history abound with instances of such representative men. Look at the Greek Alexander; could a cautious and politic Roman have accomplished what he did, or if so, would he have achieved it by similar means, and in the same time? So again, how thoroughly Latian in every fibre of him was Julius Cæsar. What laboured strategy in his campaigns, what precalculation in his policy. Through how much of conscious effort did he climb the excelsior path which led him ultimately to the heights of empire. And who does not trace the Arab in every lineament of Mahomet? The blood of a thousand desert seers befittingly culminated in that dread prophet of the eastern wilderness. His fiery zeal, that set a world in flames, speaks of Arabia in its every deed and every utterance. Could a Plato with his refined philosophy, or even a Socrates with his practical wisdom, have achieved so much? No, we reply; it demanded the terrible *inspiration* of a Semitic soul to found a faith that in two generations raised its warrior-priests to the royal and sacerdotal supremacy of a continuous empire, that extended from the Indus to the Pillars of Hercules. What Anglo-Saxon solidity spoke out in every word and act of Cromwell; and how did the lightning-like rapidity of the Græco-Italian Buonaparte overawe an astonished world, in the earlier and better days of that greatest of modern captains. Could any but a thoroughly English stock have produced plain, sensible, honest, and able George Washington? Could any other country than France have furnished a Talleyrand? Is it possible to conceive of Britain or Germany, Holland or Sweden, providing such a man? Could aught but Hellenic acuteness of perception have reflected back the living descriptions of Homer, or anything short of Grecian accuracy of observation, have sufficed for the faultless sculp-

ture of Phidias and Praxiteles? Would less than Roman dignity and power have secured the force of Sallust and the compression of Tacitus? Was it possible for Machiavelli to have been born out of Italy, or could John Milton have come of aught but English antecedents? A little reflection on the data thus furnished by war, politics, literature, and art, may suffice to convince us of the importance of ethnic facts in connection with the biography of distinguished men, whose endowments and proclivities to be thoroughly understood, must be regarded not simply as individual specialities, but also as the grand culmination and glorious manifestation of racial capacity.

But while we thus have regard to the ethnic stock, it is also of equal importance that we should thoroughly understand the individual, not simply in those manifested effects, the blossoms of thought or fruits of action by which he may be known to the world of fact, but also in that profounder causal sphere, in that deeper realm of power and possibility, whence his life and works have proceeded, as a wondrous result, swelling up from the inexhaustible fountains of force and vitality within. Let us repeat it, a literary biography can furnish little other than the contemplation of its subject, from the superficial standpoint of effects, and yet what we really want, especially in a truly great mind, is a master key wherewith to unlock the mystic treasure house of his soul, a clue by which to penetrate to that deeper realm of elemental force, whose products may take their form from influences without, but derive their quality from endowments within. To fully understand what he has done, we must know what he could have done. To thoroughly comprehend his actual, we must know the relation it bears to his possible, for thus only can we correctly estimate what proportion of his being has come forth into manifestation. Now to accomplish this satisfactorily we affirm that phrenology, based on and combined with the ethnic data to which we have already alluded, is absolutely necessary, that without this there will be at best but opinion and probability, while with it there is the certainty of true knowledge, and that accuracy and precision to which science alone can conduce.

As example is preferable to precept, we will illustrate our meaning by taking the great English dramatist Shakspeare, as the subject of an ethno-phrenological development, accessory to and supplementary of an ordinary literary life of that prince of modern poets. Born in the central county of England, which nevertheless borders on Wales, the bard of Avon was doubtless by descent of that well mingled and thoroughly amalgamated Celto-Teutonic race, familiarly known as the

Anglo-Saxon, but in reality consisting of elements from nearly every Caucasian stock in Europe, with probably a remote tinge even from the Mongolic. When well matured, this will present a Celtic basis of well developed nerve and its accompanying intellectuality and susceptibility, thoroughly baptised by and intimately combined with the muscular and osseous force characteristic of the more massive Teuton. The latter, however, is an alien element, ever tending to "shell off" in its coarser forms, preparatory to the reemergence of the central, because over this area, primal Celtic type, on which it was induced by the normal process of a conquering immigration, when the aborigines had become weak by the exhausting effects of a previous era of civilisation. Of this process arrived at maturity, Shakspeare is an admirable example, and as such may be regarded, even racially, as the prophetic man of the future. With all the refinement, delicacy and susceptibility, with all the accuracy of perception, intensity of feeling, rapidity of thought, and splendour of imagination, which attach to the Celt in his highest forms and under his most cultured aspect, he united the grandeur and power, the moral altitude, and the intellectual expansion of the larger Teutonic nature, as seen under some phases in the Scandinavian, and under others in the German. In one beautifully harmonious being, he combined the burning fire of Celtic passion with the sustained and genial warmth of Teutonic affection; while intellectually he possessed the brilliant wit of the former, with occasionally the grim humour of the latter. So in his characters we see here the native politeness of the Celt, and there the bluff heartiness of the Teuton; his own great, expansive and richly endowed nature covering and embracing the two extremes, with of course all their intermediates.

In a sense, then, we may say that Shakspeare is the finished or classical type of the modern British man, the ethnic bourne whereto the race has gradually yet surely tended from the time of the great Saxon and Scandinavian immigration. Nor are the indications of this to be expressed only in vague and general terms; we may discover the same fact in the special characteristics and particular features of his organisation. Thus, although nervous as a Celt, the face, in perfect accordance with the magnificent coronal altitude of the head, presents, with all its poetic and artistic refinement, the calmly reflective expression of a profoundly meditative Teuton. Sage and bard in one majestic nature, the well refined result of the union of these two great types, which by their ethnic marriage have produced this glorious heir, possessed of Celtic intelligence without its overstrained excita-

bility, and of Teutonic calm and self-possession without their accompanying materiality and phlegm. Similar indications are afforded by the frame, beautifully proportioned and of medium stature, in which there is Celtic fibre without its worn and wasted wiriness, and Teutonic muscle without its ponderosity and heaviness. A well-built, well-poised man, whose body was admirably fitted to be the servant of his fair and harmonious soul, the worthy exponent and outcome of his resplendent spirit, the predestined light-bearer of the centuries.

But we may descend into yet minuter details. We can contemplate this born king of men phrenologically and physiognomically, as well as ethnically. We can read the sublimities of that lofty and commanding brow, and trace the excelsior yearnings of that pure and beautiful face. We can thus not only say what he actually was, but what, under other circumstances and influences, he might have been. We can thus not only measure his realities, but also his possibilities, and show the world how much, after all, of latent force lay hidden in that magnificent soul, whose moral and intellectual plenitude, so far from being exhausted, was only indicated by those wondrous dramas which are so justly the admiration of the world. The greatest poet that ever lived, he might equally have been the profoundest metaphysician or ablest statesman the world ever beheld. The Elizabethan age wanted an archdramatist, and he supplied its necessities ; but, had it needed a philosophy or a faith, he could equally, with due evocation, have provided for its grander requirements. But, as these are strong assertions, that might not go unchallenged or be accepted independently of proof, we will now attempt their demonstration from the data already indicated.

We have portraits of Shakspeare that are authentic. The only approach to a bust of him, however, is the one at Stratford, whose general correctness is vouchsed for both by internal evidence and by its agreement in all essentials with the portraits. From these we learn that the basis of the brain was by no means large, there being only a sufficiency of passional impulse to give practical energy, and afford by personal experience an accurate conception of the working of passion in others. Such a being could never be grossly sensual ; and, if there was any phase of character entirely beyond his power of realisation, it was that of a merely animal voluptuary, like Vitellius or Heliogabalus. And, accordingly, we find that these are not the characters he ever paints, the self-indulgence of Sir John Falstaff being relieved by wit and good nature, and his Caliban being an avowed monster. The affections, not only as seen in the bust, but as reflected from the face in the portraits, are of

sufficient strength to produce warmth and geniality of feeling in all the varied relationships of life, but they have neither the volume nor intensity that would render them independent of the supervision of the judgment or the control of the moral principles. A refining element from the higher nature would ever pervade both them and the passions, lighting up and transfiguring these inferior elements as with the supernal glory of a purer and nobler sphere. For let us never forget that, while the entire organisation of Shakspeare demonstrates that he was an universal and truly representative man, it at the same time clearly shows the entire predominance of the higher over the lower elements in his being, which was, indeed, cast in an essentially spiritual, and, if we may so express ourselves, transcendental mould.

And this brings us to the region of the sentiments, where we shall be at war with his critics, and perhaps not quite in harmony with the general estimate of the world. Society, as a rule, judges a man very properly, not by his promises, but his fulfilments, estimating his capabilities by his performances. But it is very doubtful whether this good practical rule applies with equal force to the career of genius, a celestial visitant usually beyond our parallax, a meteor flash suddenly sent from the inmost to the outmost, and in reality a heavenly revelation rather than a natural phenomenon. Playwrights can scarcely be expected to fulfil the rôle of prophets. Their vocation may not be necessarily immoral; but there are scenes which they must represent, and characters which they must body forth, not perchance in exact accordance with their sentiments, but yet in perfect keeping with the character and requirements of the piece on which they are engaged. The acting drama, too, let it be remembered, is a living institution, and as such must exist in harmony with the manners and spirit of the times in which its representations take place. This adequately explains the more objectionable passages in the works of the Swan of Avon: they were not the product of his inner and higher inspirations, but apt adaptations to the present and professional requirements of the Elizabethan stage. They were not the outpourings of the man, but the utterances of the age, and as such may be at once dismissed as foreign to the matter we have in hand.

Let us now, then, without prejudice, contemplate this great spirit under his moral aspect, as this was reflected in his material organisation. And here the first thing which must strike a phrenological eye is the unusual altitude and beautiful arching of the entire coronal region. Every sentiment is fully developed, all are in perfect har-

mony, and, as a whole and in combination, they cannot fail to exercise a thoroughly predominant and commanding influence over the entire character. The result of this fine union of perfect balance with vast power, must be a series of moral manifestations, under all circumstances of a high, but under favourable and evocative influences, of the very highest order. There is the firmness requisite for a manly will, and for the steady persistence of heroic endeavour in the achievement of a difficult purpose, united with a caution that, in combination with the superior intellectual faculties, cannot fail to provide forethought in the commencement, with prudence in the management of every "enterprise of great pith and moment". Thus there may be perseverance without obstinacy, and forethought without vacillation. There is an exalted conscientiousness calculated to give the very finest sense of honour. Rectitude must be natural to such a mind. Integrity is the atmosphere of such a spirit. Not that this will give birth to the hardness of a legal, or the severity of a merely judicial character, for justice is here indeed tempered with mercy: the crowning glory of that lofty brow being a benevolence so elevated and expansive as to indicate a wide-spread philanthropy and all-embracing charity, capable of sympathising with the most distant, and pardoning the most guilty of mankind. Here we have in large part the key to his kindly portraiture of humanity. Such a man could not be a misanthrope. With his genial affections and gentle beneficence, he could not fail to love his fellow-men, and interpret even their errors under the most favourable aspect. There was a large-heartedness, from which no form of being could be wholly excluded. Such a soul, in very truth so grand and royal, like the sun, lighted and warmed all it looked upon; at once transfiguring everything with the glory and beauty of the true poet, and yet loving all things with the ardour of a real man.

Thus far, perhaps, we may carry with us the sympathies and even the assent of our readers; but few, probably, will be prepared to follow us in the observations we are now about to make on the religious character of our great dramatist. And yet they are based on the same evidence as the foregoing. They rest on a similar foundation of organic facts, and will be equally accepted by all duly prepared and competent phrenologists. The entire coronal region of Shakspere was so elevated, and the central line through benevolence and comparison so well developed, as to unmistakably indicate immense power in veneration. With a nature so harmonious in all other respects, it is not probable, and, indeed, scarcely possible, that this

important organ should have been out of due keeping with its surroundings. So that, although we have no cast, unless, indeed, we are prepared to accept that in possession of Professor Owen as genuine, and can only be guided by portraits and busts, we are yet justified in asserting that his higher proclivities were not only grandly devotional, but that his entire being was framed in a worshipful mould. From the very nature of his profession, however, this could only attain to an imperfect manifestation. The Globe theatre was scarcely a temple to the Highest; nor were the services and utterances demanded of its highpriest exactly those compatible with the mission of a prophet. The world just then wanted an archplaywright, and it got him.

It is only the truly loyal soul that can be innately royal. It was Shakspeare's reverence that gave him the key to kingly hearts. The author was at home in the throne-room of princes and the council-chamber of nations, because the man would have entered august presences with chivalrous fealty. He understood greatness, because he regarded it worshipfully; not with the vulgar wonder, and blind abasement of an inferior, but with the noble sympathy and enlightened appreciation of an equal mind. There is nothing stilted in his kings; nothing forced in his lords. His genius was obviously put to no strain for their embodiment. The most accomplished courtier could not have given them better manners; the profoundest statesman could not have furnished them with grander thoughts. He is equal to all occasions, and adequate to every character, the lowest as well as the highest. Now a Coriolanus, then a lackey; here a Cæsar, and there a Caliban. His insight is supreme, because his instruments were reverence and sympathy. With these he unlocks all hearts, and is effectually present with every form of consciousness. He knows all, because he loves and reveres all. Truly as we have said a prophetic soul, but born in an age devoid of the higher mission, and so compelled to reveal himself through those meaner offices, in which, nevertheless, his inherent royalty is clearly discernible.

Not that he could have accomplished even this without an intellect in all respects fully proportionate to his moral endowments. Devoid of adequate faculty he would have wanted that harmony which constitutes the glory of his being. His powers were all coordinate. Vast and varied as were his gifts, he was yet no onesided giant, but a perfect man. We suppose that no one ever looked upon that god-like brow, towering aloft in its sublime altitude; a veritable mountain of intellect, so calm and majestic, like Omnipotence in repose, without

feeling that here at least was a monarch of mind. The most unob-servant must be impressed with so grand a presence, however incapable of analysing the source of their sentiments. To the skilled and experienced phrenologist, however, all this presents a volume of un-wanted significance ; the organisation of the man being far greater than the works of the author, the former indicating the possible, and the latter only manifesting the actual of this rarely gifted being. By the first, we mount up, so far as is possible on the merely material plane, to the wellhead of causation ; through the last we are limited simply to the sphere of effects, as conditioned by circumstances.

Let it never be supposed that the soul of any man can be bound up between the covers of a book, least of all, such a one as we are now contemplating. It were, indeed a rather ample *world* as we take it, that would fully contain him and his aspirations. For here in very truth, if anywhere, was a mind of the very highest, that is the creative order, a veritable poet in the grander sense of that great epithet, whose works were but a fragmentary index of his capability. The intellect of Shakspeare was perhaps more nearly universal, than that of any masterspirit who has emerged to the surface, and been exposed to the critical investigation of posterity. In him perception and memory, thought and imagination, were all effectually developed, and beautifully proportioned. From the refinement of his temperament, and the harmony of his organisation, he probably possessed the truest soulmirror ever accorded to man. He reflected faithfully what he perceived accurately. There was no distortion in his images; no undue exaggeration of one feature with a corresponding diminution of another. His ideas were transcripts from nature, and hence were not only true to his own age, but will be equally true to all time. Thus it is we feel that his characters are veritable men and women, not as is so often the case in dramatic composition, mere stage automata without any reality behind them. Not that this lifelike accuracy of portraiture could have been produced by the intellect alone, however richly endowed this portion of his nature might have been. To pro-duce such a result, as already observed, it was necessary that there should be a corresponding harmony in the moral and affectional ele-ments of his being, which might thus co-operate with the intellectual, and constitute, in their tripartite union, the perfection of human char-acter and capability.

The true poet must be no merely literary scribbler, the mechanical maker of harmonious verses. This faculty of good writing constitutes indeed but one of the lower necessities of his craft. In addition to

this, not only must he have the visioned eye, which sees the open secret, never revealed in its grander significance but to the true seer, but he must also be artist, architect, and musician, uniting in himself the whole vast category of endowment, which is usually divided among the priesthood of the beautiful. This Shakspere did, and that too in a supereminent degree. Look at that fairly arched eyebrow, so perfectly in accordance with the symmetrically developed features of that more than classic, that spiritual face, of which it forms a befitting and harmoniously component part. What a faculty for colour, form, outline, and perspective is there indicated to the duly qualified observer. An eyebrow worthy of Titian. No doubt this man painted with the pen, and that too in a style which leaves us nothing to regret that he never used the pencil; but when we contemplate these fine executive powers in combination with his splendid ideality and constructiveness, it becomes at once obvious that in gaining its greatest dramatist the world lost its second Raphael. Perhaps, indeed, we ought rather to say its first, for here was a power for composition whence a thousand Transfigurations might have been derived. No wonder his stage scenes are an unfailing source of inspiration to artists. How, indeed, could they be otherwise, for are they not cartoons of ever varied life, drawn by a master-hand, whose equal the world has never yet beheld?

It must not be supposed that all architects build with stone. What, indeed, is a great epic but a magnificent temple of ideas. Your Iliad is grander than the Parthenon. The Divina Commedia transcends all Minsters, and looks down with sublime pity even on St. Peter's; while no man we suppose would compare St. Paul's to that palace of thought, which the infernals reared beneath the spiritual eye of the blind old bard of Britain's stormy isle. It is the same with the plot of a perfect drama. It is a temple of exquisite design and elaborate workmanship, demanding architectural genius of the highest order. What Doric pile ever equalled the simplicity and grandeur, the power and sublimity of the Prometheus Unbound. And what Gothic cathedral or Norman castle could be compared to Hamlet or Richard the Third?

There was a period when the sage and poet were one, when all high utterances were essentially rhythmic in form and idealistic in spirit, when the great man was also the good, and genius ever tended to culminate in prophesy. All these things have doubtless been much changed in these latter centuries, but whether for the better may admit of rather grave doubt. The clerisy of the land are now sepa-

rated into many orders. First the men of science and the men of letters, each again arranged into many subdivisions, now, alas, so isolated and estranged, in accordance with the analytical and disintegrative spirit of our age, that their several members are apt occasionally to forget that they once were formally, and still are essentially, brethren of the same exalted craft. We want a reconstitution not only of the priesthood of letters, but also of the hierarchy of intellect, now fallen like so much else into a state of chaotic ruin. And thus then it has come to pass that William of Stratford was regarded, and perhaps even regarded himself, as simply a playwright and poet, and not at all as a prophet, it being his worshipful vocation, among other things, to afford adequate amusement at the Globe Theatre to the court and the apprentices of London. And in the assiduous and praiseworthy prosecution of this his "lawful calling," it was that he produced those wondrous dramas which we are sometimes pleased to call immortal, but which to him were probably simple matters of business, conduced in their appointed way to a healthy condition of the exchequer. And yet this same playwright had in him, beyond question, a true prophetic voice of the deepest significance, had the world only been pleased to listen to its inspired utterances. Look, as we have said, at that lofty veneration, crowning the most God-like brow of these latter generations, and say whether the religious element could have been absent from such a soul. Here in very truth, if anywhere, was a man full of all devoutness, profoundly worshipful in his innermost spirit, to whom real irreverence of any kind was impossible. An inherently and constitutionally religious man, who indeed saw into the very heart of things, mainly because he loved, and in the better sense idolised them. Then, in strictest accordance with this exalted moral nature, so magnificently developed along the central line, behold the powerful comparison, powerful, yet blending so harmoniously with causality. What an inexhaustible capacity for apt and beautiful illustration lies there. What analogues and parables, bright and glorious in all the radiant imagery of genius, went down to the grave silently with this successful stage-manager. Alas, with all respect be it spoken, was there not here also a divine "*Tecton*," who yet never emerged out of the "shop," never taught upon his higher plane, was never baptised with fire from heaven, was never called to his most heavenly mission, the world as we have said in his day wanting not a prophet but a playwright, in which capacity, accordingly, the Godsent in the guise of a servant, as is their wont, ministered unto its requirements.

Society does not want prophets, it never did, and probably never will; the powers that be both in church and state, regarding all such, whatever their credentials and pretensions, as unwelcome and intrusive. But it does want sages and philosophers, at all events can endure them with more equanimity than their kinsmen the seers, perhaps because they do not knock quite so hard at the accepted respectabilities, what we call orthodoxies, as their sterner and more earnest brethren. And yet here also the world had an unspeakable loss in this William of Stratford. Never since the days of Plato has a more spiritually gifted and metaphysically endowed intellect been manifested for the enlightenment of men. Of this, what bright scintillations do we now and then obtain in the ordinary course of his plays, in very truth "sparks from the anvil" at which this Titanic Tecton is labouring, with such demiurgic force, to frame, so far as in him lies, a grim chaos into a beautiful creation.

"Our little life is rounded with a sleep."

What depths of Pythagorean lore, what farstretching glimpses of antenatal existence, what a grasp of the great and glorious thought, that we are not only immortal but *eternal*, in that pregnant line,

"We are such stuff as dreams are made of,"

is another. What a Brahminical perception of the unreality of appearance, what a profound intuition that all this seemingly solid and substantial world is after all but a cheating semblance, the maia or divine delusion by which the senses are mocked, but through which the soul is nevertheless educated. What more than Platonic spiritualities were in this man, folded up for the most part silently, not being often wanted perchance in that particular craft, to which as court playwright, he was specially devoted. Truly we have had Thomas Hobbes and John Locke, David Hume and Bishop Berkeley, who in their formal and laborious way have endeavoured to cast some few rays of light on the abstruse problems of our inner life, but if we mistake not, here was a master of psychology, who with a few strokes of his magician's wand would have revealed more than they could have put into many volumes. But the world of Queen Bess did not want moral philosophy but amusement, and William of Stratford knew how to supply its necessities.

THE PROCEEDINGS OF THE ANTHROPOLOGICAL
SOCIETY OF PARIS.*

THE third number of the French Society's *Bulletin*, first presents to our notice a continuation of M. Simonot's article (alluded to in the *Anthropological Review*, vol. i, p. 378), on the peoples of French Senegal. After briefly referring to the difficulty of tracing to a common origin the various languages of Senegambia, the author of the paper sums up in the following brief conclusions:—

“That the influence of media may induce deviations from a single form, but that these deviations are always in the direction of the original form, and do not constitute an actual transmutation like that produced by crossing.”

“That without tradition man would long ago have had his genera, species and varieties, like all the other series of the animal scale.”

“That the primitive unity of language is still a question to be solved; and that its solution will only be definitely arrived at when it is shown that all peoples possess an invariable faculty of articulation.”

In order to disprove a statement of M. Bertillon, relative to the diminution of stature of the French people, M. Boudin submitted to the society the following table of the proportion of tall men in 10,000, in the undermentioned years:—

HEIGHT. m.	m.	YEARS.		
		1836-40.	1846-50.	1855-60.
1·761 to 1·787	174	159
1·788	1·814	72	69	90
1·815	1·841	24	21	27
1·842	1·868	5	5	6
1·869	1·895	2	2	2
1·896	1·922	0·7	0·5	0·2
1·923 and above	2	0·8	0·2

In reply, M. Bertillon said that the difference proceeded from his having calculated from the restoration, whilst M. Boudin's calculations only commenced with 1836. M. Lagneau quoted M. d'Omalius d'Halloy, to show that France was divisible into two great ethnic groups; one including the departments of the North-east, which furnished a great number of tall men; the other, those of the South-west, containing only a few men of large stature. He then gave an

* Bulletins de la Société d'Anthropologie de Paris, vol. iv, 3eme Fascicule. May to August 1863.

elaborate account of the various races which had settled in different departments, and from whom local peculiarities of stature might have been derived. M. Boudin remarked, that in 10,000 men examined for military service in 1831, 928 were rejected as below the standard, whilst in 1860, the number rejected only amounted to 594. M. Broca observed that other than ethnic causes might induce diminution of stature; he agreed with the principal part of M. Boudin's statistics. M. Pruner-Bey attributed the low stature of the inhabitants of Silesia and the Black Forest to defective nourishment. This interesting discussion is followed by M. de Quatrefages's description of the Abbeville jaw, which has already been given at length in our columns.

A paper by M. Schaaffhausen on the Neanderthal skull, followed by one on the same subject by M. Pruner-Bey, occupy the next place. M. Schaaffhausen denies that this skull approaches nearer that of the ape, or shows in its general characteristics a smaller degree of development, than the skulls belonging to some savage tribes of our own day. He shows Mr. Huxley's assertion, that the posterior portion of the skull is more abnormal than the anterior, to be without foundation, and that all the peculiarities which he points out are equally discernible in the skulls of other inferior races. The cast of the brain shows a great resemblance to that of an Australian presented to the society at the same time, so far as concerns the smallness of its development.

We next find a continuation of M. Bertillon's paper on *Anthropological Method*, in which he cites various passages from Quatrefages, Isidore Geoffroy Saint Hilaire, etc., as examples of what he calls the syllogistic or scholastic system, as opposed to the scientific. His definition of this system, the tendency of which he denounces as scientifically vicious, is that it consists in foreseeing, and consequently interpreting, the observation of facts from the point of view of a sort of fixed idea, the fascination of which greatly prejudices our logic, and influences the healthy interpretation of the small number of facts possessed by Anthropology, which do not authorise us to arrive at any general conclusion. Ultimate conclusions would appear to be the enemy against which M. Bertillon considers it his duty to keep himself and his brethren ever on the watch. His notion of the mission of a scientific body is, "to collect facts, to arrange them in series, to group them, to draw from them prudently immediate (*prochaines*) conclusions, and to throw aside every other desire but that of discovering truth." This is certainly very good advice, especially to a society which is commencing a new subject of study, and which is,

therefore, more likely to attach undue importance to discoveries, which wider investigation in the same field may show to have no very general signification. M. Bertillon gives a somewhat happy illustration from the case of the President (at that time M. Quatrefages), and Secretary, M. Broca, of the French Society, who he declares possess an equal knowledge of Anthropological facts with equal powers for their application, and yet they have arrived at exactly opposite results by inductive reasoning from those facts. He then expounds his system of classification, which consists in arranging all measurements of the same species in order and size, and publishing the entire series which results from this arrangement. He gives several examples of the practical application of this system, as in the case of measurements of recruits, &c. The last portion of this very able and elegantly written paper is devoted to a consideration of the fallacies, which the author considers have arisen from giving an undue importance to the influences of media. A description by M. Pruner-Bey, of a brachycephalic skull, belonging to the stone age forms, the subject of the next paper. This skull measured 129 millimetres in length. The thickest part of the cranial walls was 12 millimetres. The forehead appeared deficient; it is retrocedent above the supraciliary arches, which are much developed as in the apes. The upper border of the orbit is quite straight, from which it might be inferred that the *angulus externus palpebrarum* was elevated as in the Chinese. He considers that the brachycephalic type of a part of the ancient Tuscan inhabitants, belonged, probably, to the Iberian and Ligurian stocks. Brachycephali have also been observed in the Abruzzi, and in Sicily.

M. de Quatrefages furnishes a short paper upon the influence of media, in which he adduces the origin in America of the Niassa ox, and the species without horns. He placed before the society a photograph of the only head of the former species at present in Europe, the face of which he describes as appearing to have suffered a general contraction, and to present some analogy; and to present an appearance somewhat analogous with that of the bull-dog, the inferior maxillary protruding beyond the superior. He observes that, as this conformation renders feeding more difficult; man would have no inducement to encourage the perpetuation of this variety, yet it retains its peculiar characters in spite of constant crossing, and transmits them in every cross with the ordinary species. M. de Quatrefages deduces from this fact conclusions in favour of the powerful influence of media upon the animal organism.

An interesting paper upon the remains found on the site of the

Convent of the Mathurins at Paris, in June 1863, is given by M. Louis Leguay, from the researches of M. Arthur Forgeais. These remains, consisting of two skulls with a portion of a third, would appear, from the objects discovered with them, consisting of specimens of mediæval pottery, to belong to the twelfth or thirteenth century.

M. Bonté contributes an elaborate paper occupying seventy pages of the Bulletin, entitled an "Analytical résumé of facts addressed in support of Medial Influence," which he considers one of the most fundamental questions of Anthropological science. The end which he proposes to himself in this communication, is to bring to their just value all the facts which have been considered up to the present time to be proofs of the influence of media. M. de Quatrefages describes a medium as "the collection of whatever conditions or influences, physical, intellectual or moral, are capable of acting upon organised beings." Taking this definition as his starting point, M. Bonté first discusses the proposition, that as media possess an immense influence upon animals and plants, they ought necessarily to have the same effect upon the human race; he shows that the analogy fails, in the first place, because, whereas nature has placed plants and animals in certain determined positions upon the earth's surface, she has endowed man with a desire of moving from place to place. Therefore, if man be cosmopolitan, and can adapt himself to any climate, it proves that climate has no influence upon his organisation; if man be incapable, on the other hand, of existing in all climates, it is a proof that his organisation is inflexible, and cannot be altered by, or accommodated to, the new climates in which he may find himself. The second argument against this analogy is founded upon the difference between the chemical composition of man and the vegetable; and the third on the difference in their relations with the atmosphere. Lastly, M. Bonté considers that the influences brought to bear upon plants or animals have been for the most part human or artificial influences, and cannot, therefore, be adduced as proofs in argument upon the operations of nature; that the fact of an animal being domesticated is an instance of violence done to nature, and its being restored to its savage state a mere cessation of that violence which results in a return to the natural state. He then goes on to say that one of two things must exist, viz.: either that the influence of media upon man is evident, as has been maintained, in which case man himself will furnish sufficient proof without looking elsewhere; or, on the contrary, this action is doubtful, in which case it will be better to wait until we obtain more evidence on the subject. With reference to the in-

fluence of geographical conditions upon the various races of man, M. Bonté brings forward a large number of alleged instances of climatic action from Prichard, and M. de Quatrefages, in which those writers have endeavoured to show that a regular proportion exists between the heat of various climates, and the darkness of the skin of their inhabitants. He then adduces several of cases in which the darker tribes are found in the colder climates; whilst those who live in hotter localities are of much lighter colour. He then mentions the fact, that the inhabitants of large towns, who are necessarily less exposed to the sun than those of the country, are generally darker, as admitted by Prichard. The second theory which he discusses, is the influence upon the colour of the skin of a higher or lower, a damp or dry locality. With regard to the influence of food upon colour, M. Bonté only admits that a liberal supply will, by bringing the subject into a healthy state, perfect his natural colour, so that it will, he says, render the negro more black, the white man more white. We regret that we cannot follow this interesting paper through its details. The conclusion to which it arrives, is that "We have seen, as to the system of media, either facts positively denied as facts, or explained by reasons altogether independent of the action of media."

Correspondence.

THE NEANDERTHAL SKULL.

To the Editor of the Anthropological Review.

SIR,—The enclosed letter, which I have just received from my able and energetic friend Dr. Pruner-Bey, will be of interest to your readers, if they think further arguments necessary to disprove the alleged affinity between the Neanderthal man and modern Australians.

C. CARTER BLAKE.

April 22nd, 1864.

"28, Place de St. Victor, Paris, 19th April, 1864.

"**Most EXCELLENT SIR**,—I have twice to thank you, first of all for your kind attention to me personally, and in the second instance in the name of true science. With regard to this, I take the liberty to send you a copy taken from my memory, of what I had to submit to our Society here on the 7th of this month, about the man of Neanderthal. He is, what is of importance to me to establish before all, a *Celt.* 1. For, besides the large development of the frontal sinuses,

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there is, so far as the exterior surface is concerned, nothing in this skull deviating from the old Celtic type. 2. He is a *Celt*, because the cast of the cranial cavity, being compared by myself with sixty casts belonging to the most different human races, agrees with that of the *modern Irish Celt* (of which there is a very fine specimen in my collection). 3. He is a *Celt*; for one particularity regarding the right angle formed by the neck of the head of the femur with the body of this bone, as it is observable on the femur of the Neanderthal man, has been found by me chiefly on femurs arrived from 'Boulogne-sur-mer', and found with very ancient and true Celtic skulls. Besides these cases, the same particularity is to be seen on the femur of the finest skeleton in the Museum, that of a Celtic woman of Great Britain.

"Tell, if you please, the gentlemen who still talk about Australians in comparison with the Neanderthal man:—1. That my friend Schaffhausen has shown the futility of this by exactly established measurements. 2. That if there is, besides the true Australian type, recognisable at twenty paces to every one who has taken the trouble to go near to it, another one with more lengthened and elliptic skull, found in the northern part of Australia; this last type belongs to immigrants from the Nigritic islands, as for instance, from New Guinea, the New Hebrides, New Caledonia, etc.

"Still, nobody who has measured simply the length, and breadth, as also the circumference of such Nigritic skulls, will ever again *confound* them with the long-headed Celt of Neanderthal; for here, as in almost all the ancient Celts, the circumference as well as the transversal diameter are much larger than in those very improperly so-called Australian skulls, which are distinguished even by the *simplicity and form of their sutures* (a thing apparently so insignificant as this) from old and new European skulls. It is not our fault, if gentlemen at Sydney are in a loss

"Last of all, the most learned and acutely observing Professor King will allow me to observe to him in particular:—

"1. That the *elliptic* form (segmental) of the occiput as well as of the coronal is truly characterising the Celtic type; that a triangular occipital squama is one of the many distinguishing characteristics of the old pre-Celtic brachycephalic skull, etc.

"2. That in consequence of the large development of the frontal sinuses, there is *outside*, of course, a receding forehead (internally it is quite different, as may be seen on the cast).

"3. That the badly advised legion of *copyists* still put in circulation the error about the absence of frontal sinuses in Australian, Tasmanian, etc. skulls, generally. Truly they are absent in some, but present in others of the skulls I studied belonging to these races.

"Excuse, sir, the liberty I take in this involuntary relief to my feelings. I have no motive to offend anybody of our worthy colleagues; but, pardon me, sometimes I lose patience, even here in the metropolis of civility. I have the honour to call myself, sir,

"Your très-humble élève et serviteur,

"DE PRUNER-BEY."

ACTS XVII, 26.

SIR,—Your correspondent in No. III. of the *Anthropological Review*, who gives the MS. readings of Acts xvii, 26, has omitted that of, perhaps, the oldest and best of them all.

The Codex Sinaiticus, omits *haimatos*. "It is," says Mr. Bradshaw, the keeper of the MSS. in the University Library of Cambridge, "a book written in uncial characters of the fourth, or at the latest, fifth century, according to all the authorities. As for the value of its readings, it takes its stand with the very best copies now remaining."

I am, Sir, your obedient Servant,
T. BENDYSHE.

88, Cambridge-street, Pimlico.

Miscellanea Anthropologica.

Meaning of the Term Anthropology. "Immediately the Anthropological Society was founded, an outcry was raised against its members for introducing a new word into the English language, which, said their opponents, had its meaning already expressed in the well-known word 'ethnology.' This feeling still exists, and therefore, we are glad to perceive that the learned president of the Anthropological Society has taken the subject of the controversy in hand. At a late meeting (January 5th), Dr. Hunt, in delivering the annual address, observed: 'If ethnology means the science of races, then it is assuming what has yet to be proved. Personally, I believe in the existence of races, and, consequently, that there is a science of 'ethnology'; but how objectionable the word must be to those who do not believe in races can be easily conceived. In the word 'anthropology' there is none of these gratuitous assumptions. It assumes nothing, and merely means, the science of man, or mankind. Some men in this country have expressed themselves adverse to the introduction of what they please to call a new word in the language, and also that 'anthropology' means exactly the same thing as 'ethnology.' Both statements are equally erroneous. 'Anthropology' is not a new word, nor does it mean at all the same thing as 'ethnology.' In Germany, France, and even in America, the word 'anthropology' has long been introduced, and with exactly the same meaning which we attach to it. Indeed, I think I may affirm, that there is not a scientific man of any eminence in Germany, France, or America, who now ever confuses the meaning of the two words—'anthropology' and 'ethnology.'"—*Popular Science Review.*

Not man, but man-like. We extract the following from a pamphlet published by Mr. William Thomson, of Melbourne, in reply to Professor Holford. A controversy has been raging in the antipodes, with the same bitterness and passion as these questions have been argued in England.

"How far the necessity for propitiating persons and prejudices is

answerable for these opinions is very apparent; and, just as the older anatomist has throughout had priority, so had he the greatest plausibility in these matters. Moderns must conciliate public opinion—he had only his patron. They bend the neck of science to the yoke of Demos, as he did to gentler graith, with a controlling power beyond and above both. Inscribing his book to the Lord Chancellor, Tyson archly observes of his pygmie that, 'The animal of which I have given the anatomy coming nearest to mankind, seems the nexus of the animal and rational, as your lordship and those of your high rank and order for knowledge and wisdom, approaching nearest to that kind of being which is next above us, connect the visible and invisible world.' In this paragon of flattering dedications, the author adroitly conciliates a hearing for his theory by an illustration of it. Vain man is willing to be flattered by his improbability; but nothing must, 'with Roman severity, admonish the conqueror that he is but dust.' The evidences of a progressive enlightenment are not apparent in this direction: for, as in the *Religio Medici*, all are denounced as infidels and atheists who deny the reality of witches, so are those denounced who dare question the dogma of specific creations. In this branding process the *Edinburgh Review* and its Melbourne namesake, as the zenith and nadir of the literary world, hold up conspicuous lights. Their aurora, boreal and austral, are as things intermediate between telluric coruscations and the sun, and must be typical of an ascending scale, even among the illuminati. The president of the Anthropological Society of London, lately alluded to a prevalent belief upon the Continent that cultivators of science in England are 'priest-ridden, and afraid to give utterance to their scientific opinions through fear of public scandal.' Had he been resident among us, he would not have defended all his countrymen against this as a gross calumny. That 'the question of the origin of man, which owing to assumed vested interests, ignorance and superstition, had long been a forbidden subject of controversy, has now forced itself not only on the attention of men of science, but on that of the public generally,' may truly enough be said of the public at home; but here the dread of incurring the displeasure of hierarchs and sacerdots, or that imbecility which is tortured by the bugbear of singularity, still deters too many from more than furtive studies of these mysteries of Nature. However, no one can now be ridiculed as the advocate of doctrines discarded by every scientific man in Europe. True or false, they are at least not obsolete. Fashion, failing intelligence, will make them familiar, perhaps even in Melbourne, and the prediction made in *The Argus*, on the 3rd of August, 1858, that doctrines now confined to the studious and candid few, will eventually become the creed of the learned, and finally among the elementary principles of education, will be verified. 'The day is long gone by when the probability of transmutation could be sneered down as the phantasm of a dreamer, or the product of the scepticism of an infidel. The possibility, nay, even the extreme likelihood, of such a law being eventually established is now rapidly becoming a tolerated doctrine in the creed of deep-thinking, scientific men,' is the statement of one of Huxley's severest

critics*—of one who was a progressionist when Huxley supported views the reverse of what he now advocates. This recognition of truth will be a fresh proof of the supremacy of human reason, and one of its highest triumphs. Then will man better look 'from Nature up to Nature's God'—better than by gazing through the distorting media of invented creeds and cunning formulae. The faggot ever was an uncertain beacon of the truth, but it shows up a new light. A worthy minister facetiously suggests that man is the only animal that uses a gridiron, which may be called a homely way of bringing an infidel opinion to the stake."

We purpose to allude to the whole questions here discussed at length at a future time, and the proximate publication of M. Gratiolet's work on the myology of the gorilla, will no doubt throw much light on the subject.

Anthropology and Geology. Mr. George E. Roberts, in an admirable pamphlet,† makes the following remarks respecting the present state of the science of man:—

"So much light can be, and is being, thrown upon geological phenomena, by studying the forces of nature now operating in physical changes, and in the regulation of animal life, that any sketch of the position to which the science has attained must be incomplete if it ends at the period which, according to our present knowledge, marks the appearance of man.

"And here it may be remarked, that the mist which enshrouds the early physical history of the earth is so far recurrent, that the latest scene in the panorama (that which fills up the space between geological history and the point in time lit by the furthest-traced tradition) is one of equal uncertainty as regards the reliability of its data; and yet the cloud is not one arising from an elemental war which ended the pre-human kingdom, and prepared the ground for the erection of the new fabric by divesting it of its former occupants. There is no evidence of any grand convulsion of nature separating purely geological history from that chronicle of natural events which begins at the birth of man; 'no trace,' as Mr. Jukes has remarked, 'of any hard boundary-line between the human and the pre-human period of the earth's natural history; for the present is but a part of the past.'

"Man, as an integer of the life-problem, slowly worked out through the æons of the past in an unbroken continuity, is but a term of the sequence; and as such, philosophy forbids a search among the buried records for evidence of miraculous phenomena, or events contrary to natural courses which inaugurated and surrounded his appearance.

"As yet we are in the infancy of this inquiry. We are just beginning to discover that the first appearance of man upon the mundane stage (regarded in a non-miraculous light) cannot be deter-

* See *Anthropological Review*, vol. i, p. 189. ED.

† *Remarks upon the Present Condition of Geological Science.* By George E. Roberts. (Von Voerst.)

mined by the discovery of certain fashioned weapons of flint in a district which it would be a stretch of hypothesis to call the cradle of mankind; and before any chronologic scheme can be attempted, long and close observation will be necessary of the relics of prehistoric nations. What Dr. Daniel Wilson has done for Canada and Scotland must be effected in other lands, and the vestiges of the ancient peoples correlated with the usages of modern tribes.

"The small amount of anthropological data accumulated already by travellers, shows that the manners, customs, and other features of the stone-age are still existent, and that a separate scheme of progress throughout time must be drawn for every people in every land.

"The stone-age of Scotland is younger than that of Denmark, and is itself represented by hunting and fishing tribes in North Polar countries, which still use implements of stone. So persistent is custom and usage among primitive tribes, even when in near neighbourhood to an educated people, that stone querns (hand flour-mills) are still used in Ross-shire; five specimens having lately been obtained by my friend Mr. Stables, of Cawdor Castle, from the Earl of Cawdor's tenantry in that county.

"Can it be that the differing chronological values of these stages of human progress will find a parallel in the stratigraphy of sedimentary deposits, similarly unattributable to one zone of geological time? I am well aware that the facts yet obtained are too meagre to warrant any broad reasoning which shall be of present value; yet a geologist may be pardoned if he offers an axiom for acceptance in days of increased knowledge, that stratigraphical parallelism,—borrowing a designation for the cosmopolitan law he proposes from the science which has suggested the idea,—whether in the deposition of mineral sediment, in the distribution of animal and plant-life through time, or in human thought and design, considered with reference to pre-historic or historic events, are terms coequal and coordinate in value."

Apes origin of Man. An article in the *Reflector*, currently attributed to a zealous fellow of the Anthropological Society, contains the following observations:—

"After stating this much—which is not very new, for we remember hearing such things in the medical class-rooms of our university five and twenty years ago—Professor Huxley argues—'Thus the study of development affords a clear test of closeness of structural affinity, and one turns with impatience to inquire what results are yielded by the study of the development of man.' We cannot afford to quote the rhetorical interrogations that follow. We think them unnecessary. We do not know why the Professor or we should be in the least impatient. We can answer unhesitatingly and as fully as he, 'The reply is not doubtful for a moment, and has not been doubtful any time these thirty years'—nay, we might say these three thousand years—for, inasmuch and in as far as man is an animal, 'without question, the mode of origin and the early stages of the development of man are identical with those of the animals immediately below him in the scale.' We quote on un-

hesitatingly—‘Without a doubt, in these respects, he is far nearer the apes, than the apes are to the dog.’ In frankly adopting these quotations in order, on our own part, to ask, And what then? we must guard ourselves from being supposed to accept the inaccuracies of language and contradictions of our impatient Professor. If the stages of man’s development were ‘identical’ with those of the animals immediately below him, then they could not be “nearer” to any one rather than another. Similarity, and not identity, is all that can be legitimately predicated here, to make the reasoning consistent and logical. Then again, because the embryo man is more like the embryo ape than the ape is like the embryo dog, ‘startling as it may appear to be’ (the Professor goes on), ‘this alone appears to me to place beyond all doubt the *structural unity* of man with the rest of the animal world, and *more particularly and closely* with the apes.’ This is very sad. Developmental ‘identity’ and ‘structural unity’ with all other animals, and yet a ‘far nearer’ resemblance, and ‘more particularly and closely,’ with the apes! Now, if in some things man as an animal is identical with other animals, then in those respects he cannot be more than identical. Solomon reminds us of some of these things, ‘that we may know that we also are beasts,’ *i.e.*, animal. Job, in like manner, and with equal truth, calls man ‘a worm;’ and our greatest poet adopts the phrase, though he does not take a one-eyed view of humanity, like Professor Huxley, and therefore he says ‘a worm, *a god!*’ But in all that the Professor is speaking about, man is not identical with the lower animals, but only similar to them. Even as the Professor deals with him, and while we study the frontispiece of his work, exhibiting the skeletons of apes from the gibbon up to the gorilla, and one step more to man—from the ridiculous up to the sublime—man still comes forth ‘the paragon of animals;’ and unless we choose to shut our eyes to all that we see and know, he is still, compared with a gorilla, Hyperion to a satyr.”

Pre-historic Dwellings. An admirable article appears in the April number of our admirable contemporary, the *Popular Science Review*, from the pen of Mr. George E. Roberts, and which we are glad to see has been since reprinted in a separate form. We make the following extract:—

“The lake-dwellings therein described are those in the Duchy of Parma, met with in accumulations of fresh-water mud near the present river margin. In this fluviatile material, Professor Stroebe and Signor Pigorini of Parma had met with the sites of several dwellings, from which they had obtained fragments of wood and cinders, and the bones of animals, together with a curious assemblage of art-objects in bone, stone, and bronze; in the latter material were axes, sickles, arrow heads, sword blades, hair pins, a small comb, scissors, and an awl. The pottery was of coarse clay, mixed with sand, resembling in its character the rude kind still made by hand in the villages among the Apennines. The pots found had small handles, and were sometimes ornamented with stripes. Among the bone objects were combs,

exhibiting a like ornament to those of bronze. A basket made of osier was also met with. The animal bones found belonged to wolf, wild boar, roebuck, stag, dog, pig, horse, bull, goat, and sheep; bird bones were also met with. Remains of fruits also came to light from out the mud, which were so well preserved as to be easily referred to pears and plums. Flax seeds were also found. On the site of a similar lake dwelling at Peschiera, M. de Silber found objects of like kind, together with some in copper. A lake dwelling of probably earlier date is one met with beneath five feet of peat, near to Zug, from which articles of stone have alone been obtained. At Untersee, south of the village of Constance, and on the borders of that lake, M. Dehoff found no trace of a bronze age or of metal at all. At Nieder-Wyl, an establishment of very early type was met with, though an important one by reason of the excellency of its preservation. Passing northwards, M. Escher contributes an account of a hill dwelling, near l'Ebersberg, of character very similar to those lake dwellings of the bronze age which occur in the Lake of Brienne. The lake dwellings of Robenhausen are worthy of note; those first discovered being of the bronze age; but on removing their relics, a lower foundation was seen, belonging to an older encampment.

"It is tolerably certain that some of these lake dwellings were tenanted up to—it may be after—the commencement of the Christian era. Evidences of the influence of an exterior civilisation greater than their own are clearly to be seen in the character and ornamentation of some of their bronze and iron implements; and the discovery of substances such as tin, nephrite, Mediterranean coral, and Baltic amber, among the relics of their homes, prove that the people who clung so tenaciously to the dwelling spots of their ancestors, were not insensible to the advantages of communication with European nations.

"And this contemporaneity of a low class with a cultivated people has still its counterpart in the world. The hill tribes of India, the Veddahs of Ceylon, and the various 'men of the soil' who live in the mountain fastnesses of the Malayan peninsula, are so many stagnant patches of human life, huddling together in the midst of active races, and holding fast by a few degrading traditions. By laws of human progress—and who shall say that 'natural selection' is not the greatest of these?—the nations in the midst of whose social lives they lie hidden have advanced to higher stations, while they have remained stationary, or as laggards in the scheme. And yet another law they may be regarded as exemplifying—that which, though at present it is shadowed rather than laid down, teaches the chronology of natural phenomena to be a series of overlaps, the evening of one condition of terrestrial things having been, and still being, coexistent with the morning of the succeeding era; a most reasonable and philosophic element in our comprehension of geological phenomena, and one for which we may claim an equal value among the laws of human progress."
